Map-Making Methods: Young People and the Shoalhaven River

Annalee Moes

University of Wollongong

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Map-Making Methods: Young People and the Shoalhaven River

Abstract
Map-making has changed substantially over the past few decades with the creation of new technologies and a literary critique of the cartographic process. This has lead to maps being used in different ways, one of which - participatory map-making in a focus group setting - is explored in this thesis. Young people are continually learning about and exploring natural environments to gain an understanding of and form a relationship with them. These natural environments, and especially natural water bodies, are found to be important places for young people to have access to. In a case study of the Shoalhaven River, on the coast of south-eastern Australia, this research project’s second aim is to explore how a natural place is important for young people.

To explore the idea of young people and significance of place, I have chosen to combine two methodologies: participatory map-making and focus groups. Participatory map-making is a relatively new methodology for human geographers and has been used in a number of settings. In this project it will be used qualitatively to gain insight into how young people view place. The mapping portion of the research will be integrated into a focus group setting, which will give young people the opportunity to share stories and understandings of the river.

The results from the focus groups and mapping exercise indicate that the Shoalhaven River is significant for the young people that live there, especially in terms of leisure activities and aesthetics. The results from the mapping methods indicate that mapping in a focus group setting is a useful and viable method and warrants further use and expansion as a methodology.

This research is significant because it covers two areas where a gap exists in the literature. It explores the use of maps and participatory map-making in qualitative research while investigating the significance of place for young people. As well as investigating these gaps, this project raises more questions and areas for study around these themes.

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Annalee Moes
3470532

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All photos taken by Annalee Moes unless otherwise stated.

The information in this thesis is entirely the result of investigations conducted by the author, unless otherwise acknowledged, and has not been submitted in part, or otherwise, for any other degree or qualification.
ABSTRACT

Map-making has changed substantially over the past few decades with the creation of new technologies and a literary critique of the cartographic process. This has lead to maps being used in different ways, one of which - participatory map-making in a focus group setting - is explored in this thesis. Young people are continually learning about and exploring natural environments to gain an understanding of and form a relationship with them. These natural environments, and especially natural water bodies, are found to be important places for young people to have access to. In a case study of the Shoalhaven River, on the coast of south-eastern Australia, this research project’s second aim is to explore how a natural place is important for young people.

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GLOSSARY

CSP = Community Strategic Plan
NSW DTDB = New South Wales Digital Topographic Database
NSW LPMA = New South Wales Land Property Management Authority
SCMA = Southern Rivers Catchment Management Authority
UoW = University of Wollongong
Chapter 1: Introduction

People have made and used maps for centuries, but only recently has there been a critique in their creation and use. Brian Harley’s work in the late 1980s was instrumental in initiating this critique, which led to a shift in cartographic interpretation, encouraging the use of maps in engaging alternative knowledges (Harley, 1989). Recently a call has been made for a more prominent position for maps as a qualitative research methodology in Human Geography (Schuurman, 2000; Pavlovskaya, 2006). This thesis, firstly, responds to this call, aiming to explore the use of maps in participatory map-making in a focus group setting.

The second aim of this thesis is to investigate the importance of the Shoalhaven River for young people. The study area for this project is the Shoalhaven River, located in south-eastern Australia, passing through the towns of Nowra, Bomaderry and Culburra, among others. Rivers and water bodies are important and intensely social (Waley, 2000; Kaika, 2004; Allon & Sofoulis, 2006), especially in the lives of young people (Panelli & Roberston, 2005). The voices of young people are largely seen to be missing from academic debates (Matthews et al. 1999; Jeffrey, 2011) and although they are important social actors (Bunge & Bordessa, 1975; Aitken et al. 2007;
Freeman & Vass, 2010; Jeffrey, 2011), they are still not included in academic debates and planning (Matthews et al. 1999; Freeman & Vass, 2010). The participants chosen for this research therefore fall into the category of young people. Through participatory map-making, this project seeks to provide an avenue for these voices to be heard, giving freedom of expression to the participants through the research methods.

The methodology of this Honours project forms a significant part of the literature and findings. The method chosen - participatory map-making in a focus group setting - involves the provision of a basic map to act as a prompt for focus group participants to annotate and discuss. This method was chosen with the aim to contribute to the literature on map-making as a qualitative research method; a methodology that has developed from the critical cartographies and GIS literature.

The research process involved participants annotating base maps that I created. Participants discussed the maps as they drew on and annotated them in a focus group setting. To analyse the transcripts, recurring themes - such as aesthetics and recreation - were identified. The maps were analysed by comparing the drawings and identifying the resulting themes and spatial patterns.

Three main bodies of literature guide the work in this thesis. The literature on map making is key in defining the methods used and for analysing and evaluating the methods as part of the findings. The second body of literature is the geographies of young people, justifying the choice of participants and assisting in the interpretation of the focus group results. The final body of literature comprises work on the value of rivers, cultural geography and the geography of borders, which set the scene for the study area and findings on the Shoalhaven River.

The literature concerning mapping is extensive, and so this thesis focuses on four main areas: critical cartographies and GIS; mapping as a method; the ethics of mapping; and the power of maps.
Critical cartography and GIS is a relatively new body of research in geography, gaining momentum in the 1990s. It challenges the way maps are traditionally thought of as neutral scientific documents (Kitchin & Dodge, 2007) and encourages alternative knowledges and alternative uses of maps, particularly embracing maps and social theory (Harley, 1989; Crampton & Krygier, 2006; Harris & Harrower, 2006; Kitchin & Dodge, 2007). Maps have only relatively recently begun to be used as a method in Human Geography research. This is in response to the changed way of thinking about maps from critical cartographies and calls from academics to use maps in qualitative research (Pavlovskaya, 2006). A reason for this interest in the use of maps in research is the intrinsic power of maps. Maps are powerful because they are created by powerful social processes (Cosgrove, 2005; Pavlovskaya, 2006) and are often accepted as truth, powerfully conveying meaning that is intentionally or unintentionally written into them (Kitchin & Dodge, 2007). The ethical implications of using maps as a research method is a new development in the mapping literature (Crampton, 1995; Curry, 1995). Due to the rapid growth and changes in mapping and GIS technologies, the ethical implications have not yet been fully thought through. Privacy, the impact on marginalised people, and the social consequences of GIS are a few of the issues being discussed in the literature. The ethics of GIS are complex and inconsistent, and as a result there are no definitive conclusions (Curry, 1995). There are still discrepancies about what GIS can do, both legally and ethically (Onsrud, 1995). Issues regarding the privacy and misuse of data are continually raised due to new developments in GIS (O’Sullivan, 2006).

Children or young people’s geography is also a fairly new field of geography, rising to interest with Bunge’s expeditions in the 1970s, which focussed on the spatial oppression of children (Bunge & Bordessa, 1975; Bunge, 1977; Aitken, 2001). Since then there has been a large amount of work on children and place, including how children experience, change and inhabit places. A large portion of this body of literature is concerned with defining what it means to be a child (Valentine, 1996; Matthews et al. 1999; Holloway & Valentine, 2000; Panelli et al. 2002; Panelli & Roberston, 2005). There are two main viewpoints that inform approaches to research with children: first, that children are in a transitional state, or ‘human becomings’, and second, that children are a class of their own as a polar opposite of adults (Valentine,
This thesis shows that young people are different to adults, however there are elements of adulthood and childhood in either category. As the definition of child is fluid and changing, this thesis studies young people in the category of child and, due to ethical considerations, involves participants aged over 18 years old.

Other themes in the geographies children and young people include the agency of young people, and young people and risk. Young people are often seen to have agency in society, however, the voice of young people is still waiting to be heard in many areas of society and research (Matthews et al, 1999; Jeffrey, 2011). This is partly due to how children and young people are defined. The literature on young people and risk places young people as at risk as well as posing a risk to others (Valentine, 1996; Del Casino, 2009).

The final section of the literature review focuses on the value of rivers. There is a large body of geographical literature on rivers and nature. This review focuses particularly on rivers in urban development, and the values and meanings of nature and rivers. Rivers and water are key in the development of towns and cities around the world (Desfor & Keil, 2000; Gibbs, 2009). When understanding the water use patterns in urban areas, it is necessary to know the different social, cultural and environmental interactions that are occurring (Allon & Sofoulis, 2006). Rivers and nature are full of meaning and values (Allon & Sofoulis, 2006). This value can occur in many respects, though this thesis focuses on the social value (Kaika, 2004; Allon & Sofoulis, 2006) and nostalgic value (Waley, 2000) of rivers, among others.

1.1 Study Area: The Shoalhaven River

The Shoalhaven River is the heart of the Nowra/Bomaderry township, as well as extending out to the coastal communities at Culburra and Shoalhaven Heads. This area was chosen as a case study to investigate the questions and aims of this project. Charlie Weir, a local resident and river campaigner, states: “Nowra would be nothing without the Shoalhaven River” (Southern Rivers Catchment Management Authority, 2010b). The Shoalhaven City Council acknowledges the importance of the river, however, in their 2010 Community Strategic Plan (CSP), the river is only included as
part of the environment, not as an entity on its own. The community has realised this and, along with the Southern Rivers Catchment Management Authority (SCMA), has launched the ‘Love the River’ campaign (SCMA, 2010b). This campaign began as an outcome of the SiteWorks project, an initiative of Bundanon Trust, an arts organisation located at the property Bundanon on the Shoalhaven River. This campaign aims to bring together people from all different backgrounds to protect the river and keep it in such a way that everyone can use it (SCMA, 2010a).

Charlie Weir has lived on the Shoalhaven River since he was one week old. He claims that it is the best river on the coast for fishing, houseboating, kayaking, canoeing and skiing (Weir, 4th June, 2011) and is supported in this claim by champion wakeboarder, Josh Sanders (SCMA, 2010b). This illustrates the significance of the river for them and the reason they are part of the ‘Love the River’ campaign.

Lyn Desoto, a local oyster farmer, and Chris Evison, a dairy farmer, also members of the ‘Love the River’ campaign, are usually on different sides of the playing field, however the campaign has brought them together and they are both working to protect the river and improve water quality (SCMA, 2010b). The campaign voices the views of many different parties on the river, however this study finds that there is a silence from the young people on the river, especially those not affiliated with any particular group. This finding from the field is supported by the literature, which notes the lack of young people’s voices in academic debates (Matthews et al. 1999; Panelli et al. 2002; Aitken et al. 2007). The river has many uses - from recreational to agricultural - but for the people of Nowra, the river is what makes the town. The river is both physically and socially central to Nowra as well as the coastal communities, it is full of meaning and value to the residents, including the young people.

The structure of this thesis is as follows: Chapter 2 provides a discussion of the relevant literature. The three main bodies of literature that were consulted for this thesis were: mapping, particularly critical cartography and GIS; geographies of young people; and the values of rivers. The methods used are described and justified in Chapter 3 and then evaluated in Chapter 4 as the first section of the findings. The

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1 This refers to an informal interview conducted with Charlie Weir in June 2011 regarding his use of the river.
findings span Chapters 4 and 5. Chapter 4 focuses on the results and conclusions drawn from the process of mapping in a focus group setting and other methodological findings. Chapter 5 explores the aspects of the river that were significant to young people as brought to light by the focus groups and maps, such as division of the river, aesthetics of the river and use of the river by young people. The thesis is concluded in Chapter 6, which summarises the findings and provides recommendations and suggestions for further research.
Chapter 2: Literature review

There are three main bodies of literature relevant to this research project: mapping, geographies of young people and geographies of rivers and nature. The mapping literature reviewed encompasses critical cartography, maps as methods, the ethics of maps and the power of maps. These themes instruct the methods used in this project, and show areas where the methods in this project will contribute to the mapping literature. Children’s geographies is a relatively recent body of literature, only emerging in the past few decades. This review discusses how children are defined in geography, the agency of young people and the relationship between young people and risk. This guides the justification of choosing young people as a research group. Finally, this review discusses some of the literature on rivers and nature, in accordance with the study area. Themes that explored in this review include water and rivers in urban development and the values and meanings of rivers and nature.

2.1 Map Discourses

Maps have changed dramatically since the 1990s. The development of GIS has sparked a change in the users of maps, as well as how we construct, use and think about maps. Maps have emerged from the control of the powerful elites and experts,
to become more accessible to ordinary people, not just academics and business people. Academics are challenging the underlying theories of maps and their creation and exploring new uses. When referring to the new literature on critical GIS and cartography in this thesis, the terms GIS and cartography are used interchangeably to mean the same thing as well as GIS used to refer to computer mapping systems.

2.1.1 Critical GIS/Cartography

Maps have historically been seen as objective, neutral products of science (Kitchin & Dodge, 2007). This view has changed significantly since the 1990s (Mogel, 2008; Pavlovskaya, 2006) in what some have termed a ‘cultural turn’ (Cosgrove, 2005). These changes in mapping have led to the emergence of new theories and types of mapping, including counter cartography, radical cartography and - the focus in this review - critical cartography (Mogel, 2008). Blaut (1954) was one of the first geographers to write about this traditional understanding of maps stating that “any criticism of the sanctity of maps tends to raise many eyebrows in our science” (1954:9). Brian Harley’s work in the late 1980s was central to initiating this critique and rethink of cartography. Harley’s pivotal work, Deconstructing the Map (1989), began an epistemological shift in cartographic interpretation, encouraging the use of maps in engaging alternative knowledges.

The critique of mapping and cartography came to a head in the early 1990s, with a forceful debate between traditional cartographers and the critics, which progressed to a dialogue of critiques in the mid-‘90s. By the end of this era the debate/dialogue had lead to increased co-operation between the critics and the GIS community, giving us the concepts of critical cartography and GIS we have today (Schuurman, 2000).

The debate or divide between scientific and critical cartographers continues today. Scientific cartographers are seeking to create new models to accurately create maps that are rooted in scientific positivism and geographic knowledge; in contrast, critical cartographers are questioning the principles of cartography in relation to social theory and power relations in maps (Harley, 1989; Schuurman, 2000; Crampton & Krygier, 2006; Kitchin & Dodge, 2007). For public map users and creators, cartography is art
as well as science and technology (Harley, 1989). Ultimately, maps are both products of the rules of reason and the values of society (Harley, 1989). Maps do not simply describe and explain the world, they are part of the relationship that occurs between the world and ourselves (Kitchin & Dodge, 2007). The maps created by the participants for this thesis show how maps can be social documents and even artworks, rather than just positivist empirical documents.

Harley (1989) drew on the ideas of Foucault and Derrida to argue that mapping was not neutral and scientific, but laden with meaning and power (Kitchin & Dodge, 2007). From Foucault he revealed that there is power in all knowledge, including the knowledge encoded in maps and atlases. Conclusions from Derrida’s ideas caused him to request a search for meaning and narrative in maps where previously there had just been measurement and observation. We are called to deconstruct the map and read between the lines to discover the meaning and stories written there (Harley, 1989).

Although Harley was able to apply Foucault’s social theory to maps to try to understand their truth, he was rooted in modernist thinking that maps were documents of truth (Crampton, 2003; Kitchin & Dodge, 2007). He believed that if we could identify and reveal the politics in maps then we could divulge the truth beneath (Kitchin & Dodge, 2007). Although he challenged the traditional interpretations and epistemologies of maps, he did not challenge the ontologies of the maps themselves (Crampton, 2003; Kitchin & Dodge, 2007).

Maps are not simply the lines and measurements in an image that represents a spatial reality. Maps are an image in their own right, not just a representation (Harley, 1989 & 1991; Pickles, 2004). Maps are then problematic texts, which require a hermeneutic approach to their understanding; they are not authored or read in simple ways (Pickles, 2004). This understanding indicates that the author is not dead as some would believe and maps are both a product of their cartographic representation (the labelling and text…) as well as what the mapper brings to the text (their representation, skills…) (Kitchin & Dodge, 2007). The use of participatory map-
making in this thesis exerts that the author (or authors) is indeed an integral part of our interpretation and understanding of maps.

These changes to cartography mean that mapping is no longer seen as purely scientific and technical, but as both a scientific and cultural activity. Maps are seen to reveal cultures in addition to representing calculated spatial information. They can show spatial patterns and relationships that are not necessarily visible in reality. They are performative, powerful (Cosgrove, 2005) and active, changing how people think and view the world (Crampton & Krygier, 2006). Maps are now seen as a way to engage alternative knowledges (Harris & Harrower, 2006).

This shift away from technical mapping is also seen in the acceptance of other non-western/Indigenous forms of mapping. Historically, cartography was seen as a European tradition and indigenous maps as items to be collected. Now, cartography is seen as a universal visual language, embracing maps in all forms. By embracing other forms of mapping we are able to understand the different uses of and meanings in maps outside their traditional scientific and technical uses (Harley, 1991).

Critical cartography is challenging and rethinking the uses and understandings of maps (Harris & Harrower, 2006; Leszczynski, 2009; Schuurman, 2000). Maps are being considered as ways to research and investigate alternative knowledges (Harris & Harrower, 2006). This critique demonstrates the diversity of maps and illustrates their ability to span and be developed by a variety of disciplines (Pickles, 1995; Crampton & Krygier, 2006), including human geography and the social sciences, which this thesis contributes to.

Mapping is no longer just for the experts – it has become open to the public. The map users have become the map creators (Crampton & Krygier, 2006). The binary of “mapmaker/map user” has become blurred over the last 15 years (Harris & Harrower, 2006). With the creation of computer mapping and open-source mapping programs, cartography is no longer confined to specialist map makers (Crampton, 2009; 2010). The British Cartographic Society saw this and proposed redefining the definition of cartography with two definitions, one for professional cartographers and one for the
public (Harley, 1989). This being said, there are still some who feel that open-source mapping is “de-professionalizing the geospatial field” (Crampton, 2009:35). This amateurism leads to a lack of quality control in the maps produced (Crampton, 2010).

Today, space in maps is seen as both ‘annotations’ (co-ordinates) and ‘experiences’ (social processes) (Sanders, 2008). Thus, maps can now be used as social documents, although little social GIS work has been done (with some exceptions) (Crampton & Krygier, 2006; Leszczynski, 2009; Gibson et al, 2010). Critical GIS supports this change in map use, demonstrating that maps are created and surrounded by social processes (Pavlovskaya, 2006). Schuurman (2000) gives a reason for this, stating that the critics of GIS have often written in socio-theoretical terms, which are far from technology, and that the GIS practitioners (those who create and originally used the GIS systems) are not versed in social theory. Schuurman calls for human geographers to use more GIS and bridge the gap between social and physical geography. The work with maps in this thesis aims to help to bridge this gap.

2.1.2 Maps as methods

Maps are active, constantly changing through their uses, power dynamics and social relationships (Crampton & Krygier, 2006; Pavlovskaya, 2006; Kitchin & Dodge, 2007). In the past, maps have been created and used through a predominantly positivist position (Leszczynski, 2009). However recently, as seen in the development of critical cartography, these ideas and uses of mapping have been stretched and changed. Maps are developing as a way to engage alternative knowledges, their uses are being explored and expanded (Harris & Harrower, 2006; Leszczynski, 2009). Pavlovskaya (2006) asserts the need to reposition GIS as neither a qualitative nor quantitative tool, but as a method open to reconceptualization.

The advocacy for maps to be used in different ways in and in different fields, has been the topic of much discussion in recent times, however it has largely failed to translate into practical applications in research (Leszczynski, 2009; Gibson et al, 2010). Gibson et al (2010) postulate that this is due to a lack of knowledge about the technologies available and their possibilities for cultural research. They expand on Pavlovskaya’s
(2006) call to reposition GIS, proposing that it be moved from simply a “problem-solving” tool to a core methodology for research. This thesis supports this proposal, using participatory map-making as the primary data-collection method.

The ideas discussed regarding mapping and GIS as a method have begun to combine concepts about mapping as performative (Cosgrove, 2005; Harris & Harrower, 2006; Crampton, 2009) and maps as vital tools of representation and analysis (Cosgrove, 2008). These ideas accept that people’s use of maps often reflect how they experience place and vice versa, that their experience of place affects how they use and view maps (Harris & Harrower, 2006).

In this primarily theoretical field, practical work has begun to be established by persons such as Gibson and Brennan-Horley in their work mapping creativity in Darwin and Wollongong (Brennan-Horley & Gibson, 2009; Brennan-Horley et al. 2010; Gibson et al. 2010, 2012; Brennan-Horley, 2011). In management situations, GIS has been seen to empower local communities and been used in decision-making (Brown & Knopp, 2008). This use of GIS can be translated into qualitative research projects, especially in studies with voiceless people groups. One of these voiceless, or quiet groups is young people. There is a lack of young people’s voices in the literature (Matthews et al. 1999; Panelli et al. 2002; Aitken et al. 2007). This thesis will explore how young people can be heard through participatory map-making.

Art is vitally important to maps, as we cannot fully eliminate the imaginative and aesthetic aspects of maps (Cosgrove, 2005). There is considerable study done on the relationship between maps and art. The book Art and Cartography (Cartwright et al. 2009) is a compilation of articles that resulted from the 2008 ‘Cartography and Art – Art and Cartography’ Symposium in Vienna. This symposium sought to explore and retain the status of art in cartography. Crampton (2009) states: “art provokes, surprises, seeks truths, or proposes alternatives” (p.841) and map art does these same things. Participatory map-making gives participants the chance to create maps in artistic ways that make sense to them, without other people’s aesthetic ideas imposed upon them.
2.1.3 Ethics of mapping

GIS is a recently developed technology and the literature concerning it is fairly recent, so little attention has been paid to the ethical implications of its construction and use (Crampton, 1995). There are a number of key articles, discussing the implications of GIS developments and the ethics, or lack thereof, surrounding them. The use of GIS for surveillance is one example, as GIS surveillance systems are largely unregulated (Curry, 1995). In the original critiques of GIS, concerns were raised about the intrusion of GIS and geodemographic analysis into individual lives, and these concerns have become more important as more detailed data becomes mappable. The main ethical questions of mapping ask who has the right to access, to manipulate, to display or to analyse this data held on individuals (O’Sullivan, 2006). These are important questions to be answered and considered, however they are not yet included in ethics applications (UoW, 2011). The ethics of what happens to the data collected in this project needs to be defined and decided by myself rather than any laws.

Geographic information systems are ethically complex and often ethically inconsistent (Crampton, 1995; Curry, 1995). Curry (1995) concludes that there are ethical inconsistencies in the creation and maintenance of GIS and these consistencies occur as features of the system, included through the intersection of the social and technological. Inconsistencies and complexities arise when one set of knowledges conflicts with the goals of another. Thus, we need to see GIS as a realm of interlocking and overlapping patterns to diagnose and treat the ethical issues that occur.

Figure 2.1 by Onsrud (1995) demonstrates the difference between ethics and legalities, the line dividing legal and illegal conduct (the circle) is much clearer than line AB between ethical and unethical conduct and such is the case with GIS. The light grey area represents situations that are ethical but illegal, for example and individual might break the law to prevent a greater law from being broken (such as an individual breaking the speed limit to prevent a murder). The black area is the one that is of most interest to GIS users as this new technology has not created all the ethical laws that are needed to protect people. There are still facets of GIS that are
unethical, however a legal-till-proven-illegal policy seems to stand. This requires judgement on behalf of the researcher as to what should happen to the data.

![Figure 2.1: Societal Conduct. Source: Onsrud, 1995.](image)

The GIS practitioners (those that create and use GIS systems) are often (but not always) unversed in social theory, which is used to diagnose the ethics of GIS, so nothing changes (Onsrud, 1995). Some of the ethical concerns of GIS include (Onsrud, 1995):

- Marginalised people and how maps enforce this
- Social consequences of means-driven technology
- Surveillance and privacy
- Unregulated GIS disseminated to marketing
- Lack of attention to underlying social processes
- Profit in innovation

There are ethical concerns with what is put or implied in the maps as well as with the map outputs and what is done with them (Crampton, 1995). These concerns are slowly coming to light in the literature on mapping. However the nature of these concerns means that they must be addressed with more urgency. The complex and inconsistent nature of these ethics make them difficult, yet not impossible, to resolve. The consequences of unresolved ethics may be irreversible and as Onrud’s (1995) graph shows, the amount of unethical practices that are still legal is quite substantial.
In this project I need to be aware of these ethical discussions to ensure that the data collected is used in a way that is not only fair for the participants, but also does not expose the Shoalhaven community to exploitation or other issues that may become apparent in the maps.

2.1.4 Power of Maps

Critical cartography has exposed maps as being more than just scientific artefacts, but also tools laden with meaning. The meanings that are embedded in maps impart to them a power. The power that maps wield, whether designed to or not, is discussed in the literature. Maps are both a product of power relationships as well as producing power themselves (Kitchin & Dodge, 2007). They are bound in power-knowledge relationships from their creation. Maps are powerful because every cultural, physical and social activity is spatially structured and geographically expressed (Cosgrove, 2005). This, therefore, justifies the use of maps in this project.

Maps are a product of power because they are created and understood by social processes and power dynamics (Pavlovskaya, 2006). They create power because they not only portray and represent territory, they produce it, and the knowledge produced has specific effects (Crampton, 2010; Pickles, 2004). Maps can create categories and define things as normal or abnormal, which the leads to a tendency to correct, manage or eliminate the abnormal, reflecting back to the ethical uses of maps (Crampton, 2010). Krygier & Wood (in Dodge et al. 2009) argue that maps are not representations so much as they are arguments or propositions. The maps created in the focus groups will be representations as well as arguments as to ways that the river can be viewed.

Maps are bound up in power relationships and as a result can be used as tools of power. They can help the user to view and understand the power relationships they embody (Mogel, 2008) and they can help their creators express ideas through them. Maps are instruments of control, but within this they can be “exciting, evocative, and potentially empowering” (Gibson et al. 2010:345).
The use of maps as tools of power is often political in nature. Even if maps are not intentionally political they can still demonstrate and be used in politics (Crampton & Krygier, 2006; Crampton, 2010). One example is the use of participatory and public maps used widely in US elections (Crampton, 2009). Harley asserts in *Deconstructing the Map* that what cartographers said about their maps was seen to be credible, even though cartographers did not always “engage in unquestionably ‘scientific’ or ‘objective’ form[s] of knowledge creation” (1989:1). He goes on to encourage us to “challenge the cartographer’s assumptions” (1989:2) and thus the power they hold in the maps, in that hope that this will encourage new ideas in the field. This thesis challenges this power by allowing the participants themselves to draw on the maps.

Critical cartography has changed the way that maps are viewed and used. This, along with developments in GIS, has allowed maps to be used by more than just the professionals. Map users can become map creators, and the power maps contain is available to all, including groups that were previously marginalised or voiceless in academia. One of these groups is young people who, till the mid-1970s were relatively disregarded in the literature.

### 2.2 Geographies of young people

#### 2.2.1 Defining Childhood

The geographies of children and especially the definition of what it means to be a child have been prevalent in the literature in recent times (Aitken, 2001; Panelli, 2002). It is widely recognised that ‘child’ and ‘childhood’ are socially constructed to mean different things throughout space and time (Valentine, 1996; Matthews et al. 1999; Holloway & Valentine, 2000; Panelli et al. 2002; Panelli & Roberston, 2005). Differences have been distinguished between what it means to be a child, a young person, youth and a young adult. These classifications have constantly been redefined and changed over time, space and culture (Valentine, 1996; Panelli & Roberston, 2005; Jeffrey, 2010). Citizenship is one of the ways that can be used to identify the point of transition from youth to adulthood (Hall et al. 1999). Valentine notes the importance of these changing classifications in the context of the politics of
childhood, claiming that if we recognise children as competent agents, then why do “we treat them as ‘human becomings’ rather than as equal citizens”? (Valentine, 1996:597).

A key idea debated in the literature of young people is the way that children or young people are viewed in contrast with adults. In medieval times children were viewed as miniature adults and were seen to reach full adulthood with maturity (Aries, 1962). Gradually this attitude changed and children were regarded as a separate class of person. In the 17th to 19th Centuries childhood was seen as a state that is a polar opposite of adulthood, with a clear change in between (Valentine, 1996). Today scholars regard childhood as a transitional state in itself, with elements of childhood appearing in adulthood and vice versa (Aitken, 2001; Panelli & Robertson, 2005; Worth, 2009; Jeffrey, 2010), although often their research portrays the view of children as separate and ‘less-than-adult’ (Valentine, 1996). The research in this thesis aims to present young people as producing their own, separate ideas about the river that will be just as valid, but quite distinct from other opinions.

It is important for academics researching children’s geographies to define their meaning of ‘child’ or ‘young person’ so that the reader knows their positionality on the various definitions of young person. The fluidity in the definition of child can be used for methodological purposes (Del Casino, 2009) or to support an argument. Examples come from the 19th Century when campaigners against child slavery used the term ‘infant’ to refer to young people up to the age of 18, and media instigating moral panic about teenagers and youth culture in the story about the 10-year-old murderers of Jamie Bulger (Valentine, 1996).

In this study I adopt the concept of ‘young person’ as described by Aitken (2001): that young people are separate to adults, they are competent knowledge makers and hold a unique understanding of place. I aim to avoid what Valentine (1996) reveals, that young people’s views are held as ‘less-than-adult’ as this is not correct. Due to the fluidity of terms, the term ‘child’ will be used when referring to the geographies of children and the terms ‘child’ and ‘young person’ will be used interchangeably throughout the rest of this thesis. Due to ethical concerns (which are further discussed
in Chapter 3), the young people recruited for this project are aged 18 to around 25. This age group is still classified as young people and although many of them are classed as adult citizens their voices are often unheard in academia and in public as they are combined and lost among the larger adult population. The geographies of children and young people are still relevant as this age range is not clearly defined and the issues raised relate to all young people.

The idea of youth as a transition has become increasingly popular in the literature in the last decade, replacing the ideas of children as ‘adults in training’ (Panelli et al. 2002). Worth (2009) argues that although this is a useful and valid concept, youth transition may be better viewed as ‘becoming’, gaining insight into young people’s experiences not just of the past, but of time as a lived experience, and self as continually evolving (Worth, 2009). The participants in this project are asked to reflect not only on how they use the river at present, but also when they were younger. This gives insight into the shifting uses of the river as the young people transition from children to adults.

2.2.2 Agency of Young People

Other children’s literature focuses on the way children and young people have agency in society (Jeffrey, 2011). Young people are at the edge of social change and acutely experience the impacts of different social conditions (Hall et al. 2009). Children are seen as windows to society, helping us see the state of society and understand change (Aitken et al. 2007; Jeffrey, 2011). Young people are seen to be not just recipients of change in society, but also contributors to change. Although children and young people represent a large portion of the population, their voices are largely missing from a number of academic debates (Matthews et al. 1999; Panelli et al. 2002; Aitken et al. 2007).

More and more opportunities arise for young people to voice their opinions and be heard, however there is a real danger of tokenism, where young people are given opportunities to speak, but with no choice of the subject. This often results in young people losing the confidence that they will be heard and will thereafter disregard the
system as ineffective (Matthews et al. 1999). Young people exhibit their agency through less formal avenues, such as humour and social interactions (Jeffrey, 2011).

Planners are becoming increasingly aware of the important relationship children have with their environment and are seeking to include them in planning. Although this is not yet the norm, there seems to be a greater interest of planners in children’s input (Freeman & Vass, 2010). Article 12 from the Convention on the Rights of the Child gives children the right for their views to be heard. However, they are only accounted for in terms of their maturity, or their adult-defined ability to hold these views (United Nations, 1989). As a group, children are still seen to be among the least powerful within Western societies (Matthews et al. 1999). Due to their weakness and inexperience, they reflect the pressures of the environment more accurately than adults, like canaries in a coal mine (Bunge & Bordessa, 1975).

**2.2.3 Young People and Risk**

In the study of children’s geographies a portion of the literature focuses on children and risk. These studies place children as both the group at risk and the group causing the risk. In geographical research “children are not selected because they are a safe subject. They are a furious subject: the most furious subject” (Bunge & Bordessa, 1975:1). Children are constantly changing and growing up, causing us to question things that were once concrete.

Young people are often divided more clearly into two groups, teenagers (12-18 years) and children (0-12 years). Teenagers are seen to be more the causers of risk, while children and are seen to be at risk (Valentine, 1996; Aitken et al. 2007; Del Casino, 2009). Teenagers have become the nomads of society, they are no longer accepted in children’s playgrounds and are not yet allowed into adult spaces, so while they are on the streets they are seen to be causing risk to those who have defined spaces (Del Casino, 2009). This is particularly relevant to this study because, while not looking specifically at teenagers, there is no set place for young people on the river, they are between the children’s places and the adult places, so where do they go?
Young people are marginalised in the literature due in part to the difficulty of defining them. This has been explored in recent times and has lead to a growing body of literature concerning the geographies of young people. Young people are also marginalised in river management (Panelli and Robertson, 2005). Contemporary management focuses on the science of the rivers rather than the knowledges, excluding young people. Recent management practices have begun to include young people, but their voices are still relatively unheard.

2.3 River Values

Rivers provide a strong connection from people to nature (Herendeen, 1986; Waley, 2000; Whatmore, 2006; Goodall & Cadzow, 2009). They are far too important to avoid (Waley, 2000).

2.3.1 Water and Rivers in Urban Development

Water was key in the colonisation and development of Australia (Gibbs, 2009; Henderson, 2010). Many urban and regional centres in Australia are built around water bodies (Australian Bureau of Statistics, 2003; Lake & Bond, 2007). Nowra and Bomaderry are settled around the Shoalhaven River, giving an example of how rivers form the central focus of these communities.

The governance of rivers by early settlers led to the silencing of indigenous people and the loss of local knowledge (Gibbs, 2009). The engineering approaches to water governance, which view water as a commodity (Lake & Bond, 2007; McManus, 2008), rather than knowledge-based approaches, were specifically responsible for this loss (Gibbs, 2006, 2009, 2010; Goodall, 1999, 2002; Head & Muir, 2007). Contemporary management approaches continue to silence the voices speaking about the river, and thus destroy some of the diversity of river cultures that exist, however there has been an increase in knowledge-based approaches in recent years, which are more accepting of local knowledge (Gibbs, 2009). The voice of young people is one group that is affected by the focus on numbers rather than knowledge in contemporary management (Panelli & Roberston, 2005). This thesis explores the voice and local
knowledge of young people through their uses, meanings and values of the Shoalhaven River.

Settler Australians have tried to transform the landscape, and in particular water, to fit their expectations (Gibbs, 2009). Human intervention has greatly influenced the form and function of many rivers, particularly those in urban areas (Desfor & Keil, 2000). The Shoalhaven River was originally settled for its abundant resources and rich farming land and the river was modified to suit (Evans, 2005). The area is still used this way in some places, while many other activities and values have been added over time. The maps and discussions in this thesis aim to demonstrate the young people’s use and value of the river.

To understand complex water use patterns, it is necessary to know the different social, cultural and environmental interactions that are present (Allon & Sofoulis, 2006). The Shoalhaven River has many uses. The ‘Love the River’ campaign was set up to mediate between users of the river so that the river could service many different needs. Groups who form part of this project include farmers and oyster growers, who are concerned with the economic value the river brings; people who work for environmental groups that are interested in the environmental health of the river; and young people who value the river for its social and recreational values (Shoalhaven City Council, 2010a). This thesis explores some of the values and interactions young people have with the river.

### 2.3.2 Values and Meanings of Rivers and Nature

There are significant cultural meanings and social practices associated with water (Allon & Sofoulis, 2006). Water has value, in both a general and abstract sense. This value can be practical, social, material and aesthetic (Sofoulis, 2005). In a study of river cultures in Japan, Waley (2000) finds that rivers are valued as expressions of culture, containing great symbolic power and being deeply embedded with the society and people there.
One value of rivers is their role as ‘landscapes of nostalgia’ (Robertson, 1998 cited by Waley, 2000, p199). This phrase refers to the prominence of rivers in the landscape and the way they provide associations with memories of the river (Waley, 2000). This thesis asks the participants to not only discuss how they currently use the river, but also to reflect on how they used the river when they were younger. This aims to encourage the sharing of stories and memories from the river among group members.

Water bodies in the home (such as swimming pools and spas) were found by Allon and Sofoulis (2006) to be places of intense social interaction. Water was found to play an important role in the maintaining of relations in the home environment. These pools and spas are a set of new water spaces that have been constructed to allow humans contact with ‘good water’ which is controlled and processed, unlike the wild, unprocessed water that resides in natural rivers and lakes (Kaika, 2004). Waley (2000) finds that rivers in Japan demonstrate this same social element, bringing people together all along the banks. The focus group method aims to demonstrate this social nature of rivers by encouraging participants to tell stories of experiences they have had on the river, whether shared with others or on their own.

This literature review has identified the key areas to which this thesis aims to contribute. The literature on critical cartographies and geographies of young people is recently developed and warrants further research. Critical cartographies have encouraged alternative uses of maps. This means that marginalised groups such as young people can harness the power maps have in society to make their voices heard. Studies of nature engage with uses and values of water and rivers, however in these studies some groups – such as young people – are still marginalised. Participatory map-making is one method that can help rectify this. The next chapter in this thesis discusses the methodology used to explore these opportunities that emerge from the literature.
Chapter 3: Methods

This chapter outlines and justifies the methods used in this project. Further reflections and analysis of these methods appear in Chapter 4, as one aim of the project is to explore the use of mapping as a methodology in Human Geography.

The method chosen for this thesis is participatory map-making in a focus group setting. Simple maps were created for participants of the focus groups to draw on and annotate with locations they felt were important to them. The participants were mostly young people, aged 18 to 25, with some up to the age of 30, recruited through contact with the Shoalhaven Campus of Wollongong University, a local church, and connections through other Honours students at the University of Wollongong (UoW). The maps were created in ArcGIS using data from the NSW Digital Topographic Database (NSW DTDB) © Land Property Management Authority (LPMA) 2009. Background information was gathered through interviews with council members and from council documents and publications.
3.1 Method Selection

Participatory map-making in an unstructured focus group setting is the method chosen for this thesis. The maps acted as a prompt for discussion and were annotated by participants to create a source of data. There has been a call for more use of maps in human geography studies (Schuurman, 2000), especially as previous studies have come from a positivist quantitative approach (Pavlovskaya, 2006; Leszczynski, 2009). One of the objectives of this thesis is to explore this methodology further. Recent studies by Gibson and Brennan-Horley amongst others (Brennan-Horley & Gibson, 2009; Brennan-Horley et al. 2010; Gibson et al. 2010 & 2012), have explored the quantitative use of mapping, though this work has not included focus group situations to a large extent.

The use of focus groups in this research project aims to contribute to the literature on participatory map-making. Focus groups supply data through group interaction, with the group leading the discussion more than the researcher, which is what was desired in this project (Krueger, 1994; Morgan, 1997). The data from the focus group discussion is then less likely to embody the preconceived ideas of the researcher (Krueger, 1994). Focus groups also provide direct evidence about participants’ opinions and experiences in addition to a separate analysis by the researcher (Morgan, 1997).

3.2 Study Area

The study area chosen was the Shoalhaven River. Rivers and water bodies are significant because they are often associated with social practices and are valued as expressions of culture (Waley, 2000; Allon & Sofoulis, 2006). Many towns in Australia are built around rivers (Australian Bureau of Statistics, 2003; Gibbs, 2009; Henderson, 2010), including Nowra, making the Shoalhaven River a suitable choice for this thesis. Two factors contributed to the choice of this study area: the proximity of the river to UoW (56km south as the crow flies and an 80km (1hour) drive), and the work Leah Gibbs, my supervisor, is doing on stories of the river in an arts-science collaboration with Bundanon Trust.
3.3 Base Map Production

The maps had a two-fold role in the focus groups. Firstly, they replaced an outline that is often used to structure focus groups and acted as a prompt and guide for discussion. Secondly, they became another source of data to assist in determining the important places along the river for young people. Three base maps were created for each group, one of the whole river, a close up of Nowra and a close up of the coastal area. Map production consisted of me creating base maps, which the participants then analysed, and I finally scanned, geocoded and digitized them into ArcGIS. This process was not difficult, although the decision-making was challenging. (To see the blank base maps and the annotated maps, see Appendix D and E). Three base maps were made for each focus group, one of the whole river, one of the river as it passes through Nowra, and one of the coastal area of the river.
There were many different forms of maps that could have been used for the base maps. I decided to create a basic map depicting the Shoalhaven River, the coastline, a few major roads, and key suburbs for the participants to annotate. There were many variables within these maps that were considered. The form and size of the maps needed to be accounted for in terms of the data and technology accessible (for printing and scanning maps), as well as the format of the focus groups. The information included on the base maps was created on the basis of the data available, the assumed knowledge of the participants (in regards to their knowledge of suburbs and their ability to read a map), and what was needed for the digitizing process (i.e. georeference points and enough of the river to make all the maps reasonably similar in area).

There were several different styles of maps and levels of information that could have been included on the base maps. Starting the participants’ maps with a blank sheet of paper, onto which they could draw the river and any important locations, would have been useful for understanding how the participants understand the river, however this method would not allow the information to be easily geo-coded (if at all) and this was one of the objectives of my research. On the other hand, too much information would have crowded the maps and possibly biased the annotations of the participants. The final maps created aimed to provide enough information so the participants could easily locate places along the river, but not too much, so as to allow ample room for contributions. In creating the maps I influenced how people used the maps and what they spoke about. These maps are a product of my power in the decision-making process and the power of the participants in the knowledge of the river (Pavlovskaya, 2006).

The maps for the focus groups were created using ArcGIS and the data was taken from the NSW DTDB © LPMA 2009. The co-ordinate system used is GCS_GDA_1994. To create the maps the following steps were implemented:

i. Layers were selected from the geodatabase to be used in the maps. These layers were:
a. Roads
b. Coastline
c. Bridges
d. Rivers
e. Streams

ii. To ensure that the maps would not be overcrowded with information, important features were visually selected. Lines and polygons from the rivers and streams layers were chosen to create a new Shoalhaven River layer. The decisions in this selection process were based on the names of the lines and polygons, on their visual connection with the river and on comparison with Google Earth © 2008 and Microsoft ® Bing imagery.

iii. Once the Shoalhaven River layer was created, a 1km buffer was made around the river to help sort the information. This assisted the creation of the Important Roads layer, which included the bridge across the river at Nowra and the place names that would be included.

iv. The suburbs layer was useful in identifying the suburbs, however it did not allow repositioning of the labels. The important suburbs and places were included as text on the final maps, rather than as a layer, so they could be repositioned and sized in a way that would not interfere with the other map layers.

v. So the maps could be scanned in after their annotation, georeference points were created for the corners of each map. Small crosses were chosen as they are fairly inconspicuous and have a central point which is useful for getting an exact point when georeferencing.

![Figure 3.2: A georeference point.](image)

vi. The final map document included the Shoalhaven River layer, the Important Roads layer and the georefponts layer, which had all been created for this map, it also included the Coastline layer from the original geodatabase and the place names that had been written in. To finalise the maps for the groups, a scale bar, north arrow and map title were included.
When deciding what format to print the maps for use in the focus groups, discussions were held with Leah Gibbs, Heidi Brown and Elyse Staynes (staff in the School of Earth and Environmental Sciences UoW), to determine what would work best for data collection and logistics. As participatory map-making in a focus group setting is a relatively recent development in Human Geography research, there was not a great deal of specific literature to consult. The majority of work is on either focus groups, or participatory map-making (usually in an interview or informal setting), not both, so a combination of the literature on focus groups and participatory mapping assisted in informing the final formats of the maps. The literature on maps as methods is discussed further in section 1 of the literature review (Chapter 2).

In addition to the discussions and consultation with the literature, logistics and access to technologies informed the decisions made regarding the size and scale of the maps. A map larger than A3 would not be able to be scanned and georeferenced at the university; too small a map would mean that data would be cramped. The final decision was to make three maps of A3 size for the participants to use. One map of the whole river from Tallowa Dam to the coast, this river with the scale 1:131,373, was titled “Shoalhaven River” and was shortened to ‘Full’ for processing. The second map was a close-up of the river around Nowra at the scale 1:49,309 titled “Nowra”. The last map was a close-up of the inlet around Shoalhaven Heads and Culburra entitled “Shoalhaven River inlet”, shortened to “Coast” for processing. This map was at the scale 1:53,202.

3.4 Participant Selection

School-aged children were originally decided to be used as the study group for this project. However, because children under 18 years of age are classified as an ‘at risk’ group (UoW, 2011), approval is needed from the full ethics committee as well as the Board of Education. The ethics submission process would then have taken too long, and so, for the purposes of this project, the term ‘children’ was redefined to ‘young people,’ corresponding to the fluidity of the term throughout the literature (Del Casino, 2009). For the purposes of this thesis ‘young people’ were defined as aged 18 to around 25, although this boundary was not strictly enforced due to the recruitment
methods of participants (see Chapter 3). Young people were selected as the study group because they are often not heard in environmental planning and management, and research of this age group has been identified in the literature as lacking (Panelli & Robertson, 2005). Also, there is relatively little known specifically about the importance of the river for young people, which is why this research seeks to engage with this gap in knowledge.

To further include this concept of young people and childhood in the focus groups, participants were asked to discuss and annotate on the maps ways that they used the river when they were younger, as well their use at the present time. Many participants volunteered this information before being asked, eager to reminisce about their childhood on the river.

The recruitment process was complicated and time consuming. Recruitment is a common problem when conducting focus groups as it is more difficult to get a group to commit than a single person, such as for an interview (Morgan, 1997). When recruiting the participants I originally thought to contact groups, such as Scouts, rowing clubs and pony clubs. However, I found that these groups were either too busy or did not have the age group I was looking for, and the relevant people were all very difficult to get a hold of. The recruitment strategy then became contacting the Shoalhaven Campus of UoW and through word of mouth or ‘snow-balling’. These strategies produced participants for seven focus groups.

My first focus group was with people at the UoW Shoalhaven Campus. I sent out an email via Robbie Collins (Head of the Shoalhaven Campus). I only had one response from a student, however when I was there I managed to gather a few more students to be part of the group. This worked well as people were hesitant to commit via email or over the phone, but when approached they were happy to help.

I conducted three focus groups at the university campus this way, recruiting people as I needed them. The Mannahouse Group was the only group recruited by my original scheme. I called the Mannahouse church and a member of the administration staff organised the group from the interns who work there.
The final three groups were recruited by a word of mouth or ‘snow-balling’ technique through people who had heard about my project and were interested in being a part of it. Two groups were made up of fellow Honours students and their friends and another consisted of a group of friends who had grown up on the river that I had been put in contact with by Kiri (a fellow Honours student).

When deciding on the size of the group and the number of groups to conduct, I consulted two key books by Morgan (1997) and Hay (2005). After reading Hay (2005), who suggests three to five groups of around four to 10 people, I decided to have more groups with fewer people. In total, there were seven groups ranging from one to five people, which totalled about five hours of recorded discussions. The focus groups were held during June, July and August 2011. I was quite lenient with the size of the groups, as there is no set formula for groups and it was interesting to try different group sizes. I was also lenient with the decisions for forming groups due to the difficult nature of recruitment, as people did not reply to emails and those I spoke to over the telephone were reluctant or unable to form the groups I needed. There were more focus groups held than Hay suggests, due to the lack of consistency in the group structure and smaller group sizes. The smaller groups were more compatible with the story-telling and memory-sharing style of the groups and allowed participants to have more opportunities to contribute to the maps. Due to the flexible nature of recruitment I was able to test a variety of group settings and gain valuable insights into the mapping process in a group setting (this will be discussed further in Chapter 4).

Hay (2005) discusses the different options in composing focus groups, concluding that it is dependent on the project as to who is recruited for the groups. Hay recommends arranging groups that are not acquainted with each other for reasons such as peer pressure, wanting to say things that others will agree with, and to avoid participants under-disclosing (hiding information they do not wish to share with people they know). Morgan (1997) remarks that the success of a focus group is partly reliant on the interaction of participants. Due to the narrative and reflective style of my research, these issues were not as pertinent as they might have been for a more
opinion-based study. Morgan’s findings, that participants were more willing to share when their friends were there, were shown to be true, however peer pressure could have lead to the elaboration of some stories shared (this point is explained further in Chapter 4). The groups and their structures are outlined in Table 3.1.

Table 3.1: The names of the groups, the feature used to name them, their location, the number of the participants and the gender of the participants.

<table>
<thead>
<tr>
<th>Group Name</th>
<th>Feature</th>
<th>Location</th>
<th>Participants</th>
<th>Gender/s</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Uni</td>
<td>Location</td>
<td>Shoalhaven Uni Campus</td>
<td>5</td>
<td>Both</td>
</tr>
<tr>
<td>2 Mannahouse</td>
<td>Location</td>
<td>Mannahouse Church Campus</td>
<td>4</td>
<td>Both</td>
</tr>
<tr>
<td>3 Farm</td>
<td>Location</td>
<td>One of the participant’s farms</td>
<td>5</td>
<td>Male</td>
</tr>
<tr>
<td>4 Guys</td>
<td>Gender</td>
<td>Shoalhaven Uni Campus</td>
<td>4</td>
<td>Male</td>
</tr>
<tr>
<td>5 Three</td>
<td>Participant Number</td>
<td>Shoalhaven Uni Campus</td>
<td>3</td>
<td>Both</td>
</tr>
<tr>
<td>6 Wednesday</td>
<td>Day it was conducted</td>
<td>Wollongong Uni Campus</td>
<td>1</td>
<td>Male</td>
</tr>
<tr>
<td>7 Girls</td>
<td>Gender</td>
<td>Wollongong Uni Campus</td>
<td>3</td>
<td>Female</td>
</tr>
</tbody>
</table>

3.5 Focus Group Procedure

At the start of the project the focus groups were intended to be semi-structured and based around a list of questions and prompts as well as the maps (see Appendix A and D). After the first focus group, which acted as a pilot, it was found that the semi-structured format of the focus groups was not the most conducive to the discussions and style of the group, and that the maps were a sufficient prompt and guide for the group discussion.
At the start of the focus groups, participants were given an information sheet and consent form to read (See Appendix B and C). I then began the discussion with an unscripted explanation of the maps and how I expected they would be used. The focus of the discussion was outlined, with the participants asked to draw on to the maps anything they felt was important and should be included on the maps. They were asked to include places they go to on the river and what they do on the river. Based on the forms and this short introduction, the participants were able to discuss the topic without too many prompts.

The introduction was fairly well understood, with few questions asked. In the Farm Group, one of the maps had been introduced and then the participants were so eager to start that they interrupted the rest of the introduction. I needed to pause their conversation to explain the rest. The participants were eager to find places such as Big Red (a jump rock). Later on in the discussion, Corey stated: “Aaron and I were gonna like, we were driving down to Nowra the other day and we started talking about the river and we were like no, no, we'll wait for our reminiscing.” This group had planned for the focus group and to share and discuss memories.

The prompts used in the groups, although not structured, followed a certain format. When asking questions to clarify certain points, open-ended questions were used so as not to assume they participate in any activity on the river, for example: ‘Do you…?’ or ‘Have you ever…?’ rather than ‘Where do you…?’ It was also important to keep the groups separate, for example each group that mentioned a place known as ‘Little Pebble’ was asked what it was, even though the first group had already explained it to me.

After the introduction, the rest of the group discussion was unstructured, with the only set questions being:

a. Asking participants to locate their houses on a map. This acted as an icebreaker to help the participants to transition into using the maps.

Pseudonyms were used to ensure the anonymity of the participants. See section 6 of this chapter for an explanation.
b. Questions regarding what the council has been doing. This was asked in response to participants sharing their opinions and suggestions about what should be done to the river.

c. Asking whether the participants were aware of the ‘Love the River’ campaign. This was to help determine the participants’ awareness regarding community action.

Other questions asked were for the participants to clarify a point or place or for them to expand, if they wished, on a previous theme.

The focus group recordings were transcribed for analysis. This aided the analysis by increasing my familiarity with the discussions and helping to pull out the key themes that were mentioned. Transcription of the focus groups also meant that it was easier to access and find quotes as new themes emerged.

3.6 Pseudonyms

As well as defining the age range of the participants, ethics required that I use pseudonyms in the transcripts of the focus groups. This was not a problem for the transcripts; however, on the maps some of the participants had written their names next to points, such as their house, that they wanted to claim. To ensure confidentiality the names have been pixelated on the maps so that they cannot be identified. The implications and ethical considerations of mapping are further discussed in Chapter 4.

3.7 Background Interviews and Documents

As the focus groups revealed an interest in the issues relating to the river and the management of the river, unstructured background interviews were conducted between June and September. These interviews served the purpose of creating a better understanding of the management procedures surrounding the river as well as an understanding of how older people viewed the river. An informal interview was held with Charlie Weir, a lifelong active community member, as well as two interviews and a telephone conversation with members of the Shoalhaven Council.
Apart from verbal information, the members of council provided some management documents regarding the methods used to create the Community Strategic Plan.

Documents viewed included:

- Community Strategic Plan (Shoalhaven City Council, 2010b)
- Engagement Strategy for Community Strategic Plan (Harris, 2009)
- Report on Phase 1 Engagement Strategy - October 2009 (CSP Project Team, 2009a)
- Report on Phase 2 Engagement Strategy - December 2009 (CSP Project Team, 2009b)

These documents were retrieved from the Shoalhaven Council website as well as via contact with employees from the council.

3.8 Analysis

Analysis of the data was complied into three main steps:

1) Analysing the focus group transcripts
2) Analysing the maps
3) Analysing the focus group mapping process and reflections from the process.

Recurring themes in the discussions were identified through colour coding the focus group transcripts and analysing them with reference to the literature. This was effective as the transcription process illuminated the themes and the colour coding identified them in the transcripts. The maps were analysed through digitization and comparison of annotations as well as by discerning themes that emerged in the annotations. Digitization assisted in comparing the location of places annotated on multiple maps (Appendix F). A journal of reflections from the focus group mapping process was kept and entries were considered and used in reference to the literature to evaluate the mapping process.
Chapter 4: Map-Making Results

Participants in the Farm Group consulting a road map while annotating their map.

This chapter discusses the map-making and methodological process. One of the aims of this thesis was to explore participatory map-making as a developing methodology for qualitative research. This chapter reflects on my positionality in creating the base maps and conducting the focus groups. It also investigates the response to and use of the maps by the participants, as well as reflecting on the focus group process and the ethics of the mapping process. This chapter concludes that mapping in a focus group setting is a useful qualitative research method, and there is scope for further research. The ethics of participatory map-making also warrants considerable research, especially as the technologies and uses of maps are rapidly developing.

4.1 Positionality

It is important for me to address my positionality in regards to both the making of the base maps and in moderating the focus groups. This is not debating whether the maps are correct or truthful, as maps are true for their authors (Harley, 1989; Crampton & Krygier, 2006), but instead demonstrating the layers of truth embedded in the maps. When creating the base maps I used data from several sources to make decisions, as well as relying on my own judgments. Satellite pictures and published maps informed
my design, but in the end the base maps are constructed on the basis of what I thought a basic map of the Shoalhaven should look like. The actual accuracy of these maps and the participants’ views of what should be included are discussed in section 4 of this chapter.

In regards to the focus group mapping, I did my best to remain objective and not get involved in their map-making process. However, I was asked during the focus groups for input and to clarify things they thought I might know. I might have also biased the results by asking and reminding the participants to draw and label items on the map that they were talking about, rather than them writing details of their own initiative. This being said, most of the participants were more than happy to add to the map and only needed a gentle reminder when they forgot to draw while writing. They did not seem to specifically withhold things from the maps, however this is discussed more in section 6 of this chapter.

I have also influenced the research by giving people different preconceived ideas about what my project was about. When I was calling to arrange focus groups and explaining my project to people I used different words such as ‘recreation’ and ‘activities’ and ‘water sports’. When conducting the Mannahouse focus group, one of the first things I asked them to put on the maps was any water sports they might be involved in. This lead them to think that that was all I wanted to know and they kept returning to that idea. The Farm Group was more focussed on the significance of the river as that is how I had explained my project to Corey and he had told that to his friends. While this was useful, it meant that they did share all sorts of significant and important places on the river, but not only the ones that were significant to them.

(Farm Group)
Corey: “The Australian Wakeboarding Open was here.”
Hayden: “But we don’t really get involved in that.”
Corey: “Yeah, but it’s an important part of the river.”

This highlights the importance of consistency when presenting or describing work to others and how it can affect the results.
4.2 People’s Acceptance of Maps

This section analyses the way in which the participants responded to mapping as a methodology. Each group used every single map to some degree.

In initial conversations with potential participants, mostly over the telephone, many had difficulty in understanding the mapping aspect of the project and what I was trying to achieve by it. It was a challenge to explain the project as I was unsure how the focus groups would pan out and the participants were unfamiliar with participatory map-making, which is a new and developing research method. In the focus groups, the maps were mostly understood, with only a few aspects that needed clarifying, such as the coastline and the bridge. None of the participants questioned the use of the maps. They all accepted it as a legitimate research practice.

The location of where people lived in relation to the river had a reflection on the maps that they used in the focus groups. The Girls Group used the Coast map the most as they lived in Shoalhaven Heads and did not have as much to add to the other maps. The Three Group and Guys Group used all the maps to a significant extent, however they had more annotations on the Full map. The participants in these groups lived over a more widely spread area, from the coast to Nowra, and also further south near Jervis Bay. The participants in the Wednesday Group, Farm Group and Uni Group lived closer to Nowra, so the Nowra map was the most used in these groups.

The participants demonstrated the theory argued in the literature that maps are powerful, representing spatial relationships and conveying truths about them (Cosgrove, 2005; Pavlovskaya, 2006; Kitchin & Dodge, 2007). As well as revealing to me the areas of the river that they used and how they thought of them, the maps helped the participants understand things about the river they had previously not known or realised, for example:

Lisa (Three Group): “My analysis shows that I really stick to my area.”

Doug (Guys Group): “The bridge really does act like a border when you think about it.”
4.3 Locating Places on the Maps

In line with western mapping traditions, a scale bar was included at the bottom of each map. The scale bar was only used in one of the focus groups. Jess (Girls Group) used the scale bar to locate her house on the map and add accuracy. Although she referred to the scale bar for accuracy, she used her fingers to measure, which reduced the accuracy. The scale bar was useful in helping Jess and the others in the group work out the locations of their houses in relation to the surrounding parts of the river, coast and roads:

(Girls Group)
Jess: “Hang on, we’ve got a scale here”
Amy: “Says the scientist!”
Jess: “So that’s one k from the river, so that’s the headwaters going out, so it must be…”
Kelly: “…Berry’s beach”

This quote gives reasoning for the use of the scale bar, that Jess is a scientist, and so therefore concerned with accuracy and is familiar with scale and scale bars.

The bends in the river were used extensively to locate places along the river, for example:

(Farm Group)
Mitch: “Here’s Big Red”
Hayden: “No, Big Red would be here wouldn’t it?”
Corey: “No, it’s after that first bend isn’t it? Or is that the first one?”
Hayden: “Oh, that’s the Grotto.”

(Farm Group)
Corey: “Big Red’s here”
Mitch: “On that next bend?”
Corey: “‘Coz here’s North Nowra, so I think this will be Big Red there … or there”
Trent: “I don’t think it’s there because when you look far out, like, there’s a turn that goes that way, like when you look to your left on Big Red there’s a turn that goes around.”
(Guys Group)

Greg: “There’s Rockhill Road.”

Doug: “It’s not right on a bend is it?”

Stuart: “Not right on a bend but like …”

Greg: “Yeah, yep.”

This strategy worked to some extent, however, there were a number of cases where similar bends were confused. This is seen in figure 4.1, where the Bundanon property is located on the wrong bend of the river.

Figure 4.1: Portion of Guys Full Map (coloured arrows added by me). The red arrow points to where they have located the Bundanon Arthur Boyd Property, the darker purple arrow points to the bend in the river where the Bundanon property is actually located and the green arrow points to where they have correctly located the Boyd Education Centre at Riversdale.

Roads proved to be valuable for the participants in helping them locate places on the maps. There were only a few roads located on the maps, however they aided
participants in inferring other roads from their memories and locating places along the river. In the Wednesday Group, David used the roads considerably more than participants in the other groups; a reason for this could be that this how he remembers and can locate places, though another plausible conclusion is that because there were no other groups members with whom he could confer over locations, he had to use the roads as the main basis for his mapping accuracy.

Each of the groups voiced some confusion over the maps and their difficulty in locating places on them. The Farm Group solved this problem by referring to a road map:

Hayden: “Do you have a road map? Go get a road map, Mitch.”
Trent: “So I think it’s, I’d say…”
Mitch: “Would there be one in the house?”
Hayden: “Probably, do you have a road map there at all?”

A few minutes later Mitch came back with a road map:

Mitch: “I found it guys, oh you can see the trench on this map.”
Hayden: “That’s handy.”
Annalee: “Okay, make sure you still draw on the other map.”
All: “Yeah.”
Corey: “You got Crams Rd, Big Red's at the bottom of Crams.”
Mitch: “That’s a lot further along than. Oh, coz you cut across …”
Hayden: “If Crams is here, then …”
Mitch: “Coz you cut across. There’s that bend you were looking for.”
Hayden: “Yeah, well that'd be the ski park.”
Corey: “It has to be further than …”

As seen in this quote, the boys used the road map to locate different places, which they then transferred on to the maps I had provided them.

Maps are created by and bound in social processes and power relationships (Cosgrove, 2005; Pavlovskaya, 2006; Kitchin & Dodge, 2007), and thus, the power relationships and social processes of their creators define truth in maps. The participants in the Farm group accepted the truth of the road map they used and translated the truth they found on that map to become the truth on the maps they created in their focus groups. The social process of the participants includes accepting
published maps as truth, and these published maps are loaded with the power to define spatial relationships that exist.

### 4.4 Accuracy

Issues regarding the accuracy of final annotated maps were evident in two main areas of the participatory map-making process, regarding the drawing of points and the questioning of what appeared on the base maps.

When comparing the final maps a few discrepancies were found as to where places of interest were located on the river. Big Red was located mostly in the same place, however there were a few differences (Figure 4.2).

![Figure 4.2: A map of the participants locating the Big Red jump rock on the Shoalhaven River. Four groups placed the rock in a similar area, while one group placed it further away, possibly confusing it with another jump rock, or not knowing the place on the river. The blue dots symbolise points and the green shapes symbolise polygons representing the place.](image-url)
As well as differences between the annotations, there were also differences between annotations on the maps and their locations in reality. This has already been discussed in section 3 of this chapter, but it is worth mentioning again as it demonstrates that the participants presented their maps as what was true for them. The example mentioned earlier, the location of the Bundanon Arthur Boyd property, shows that the truth for the participants was that it was located on a bend in the river. The truth in reality is that it was located on a different bend.

The accuracy of my base maps is based on the accuracy of the data that was given to me as well as the decisions I made regarding this data. The accuracy can be described in terms of what I included as well as what I left out. The data used for creating the base maps came from the NSW DTDB © 2009. There were many different layers in this database, from which I had to choose what to include. Any changes to the river in the last two years would not be shown on this map. This could have been a concern, especially as the river is sandy near the river mouth, which causes a certain degree of variability within the river.

Although the maps were generally accepted as true and correct, participants had a few queries regarding what I chose to include or leave out. One notable mistake was the spelling of Bomaderry, in an oversight I spelt it ‘Bombaderry’ on the maps, including an extra B. Only one person noticed and mentioned this, David (Wednesday Group):

David: “…Ok, so, Bom-a-derry, not Bomb.”
Annalee: “Yeah, I think you’re the first person to actually pick that up, which is kind of interesting.”
David: “Bangalee, Watersleigh, Longreach, yep, Nowra’s spelt right, well if that’s Nowra, this here is North Nowra over here (writes) all that there’s North Nowra, Bomaderry (pronounces it Bombaderry) and this is Nowra, itself, like there, yep. Good, ok.”

Although he corrected my spelling (and checked all the other spellings), David still pronounced Bomaderry as though it had a B in the middle. He seemed, as did other participants, to alternate between the two pronunciations. There seemed to be an interest amongst the participants to make sure their spelling was correct, often
conferring with the others in their group to make sure that they wrote words correctly on the maps.

Commerong Island was mentioned by the groups in regards to accuracy as they had trouble locating and identifying it on the maps. Commerong Island is an island on the coast bounded by the Shoalhaven River, the Crookhaven River and the Pacific Ocean. In Figures 4.3 and 4.4 you can see the comparison of the 2008 Google© image to the map created for the focus groups. The Google© Image shows how shoaly the river is and all the sand bars, which are constantly changing, making it difficult for the creators of the dataset to accurately define this changing river. This end of the river also changes in relation to the tides. A particular point of confusion for the participants was the break wall, which is difficult to see in the 2008 image, but overly large in the focus group maps.

Another point of accuracy brought up by participants was the parts of the river that were included and excluded from the maps created. The data layers used to create the river on the map were not specific, they were quite extensive, containing numerous side streams, both perennial and ephemeral, making it difficult to deduce what was important to include on the map.

Participants noted that there are some smaller tributaries of the Shoalhaven, especially near Nowra, that should have been included:

Lisa (Three Group): “Well, I guess given that that’s the bridge, you follow the river up and it’d be about here, but there’s like a little, oh hang on, there’s like a little inlet, another little creek bit that comes in off of Ben’s Walk and like I always walk along that.”

Lisa (Three Group) noticed a significant side stream that was missing from the maps. Kurt (Three Group) was the only participant to comment on the inclusion of the Crookhaven River on the maps, especially when the project is titled on the participant information sheets as “Significance of the Shoalhaven River.”
Figure 4.3: Commerong Island and the Shoalhaven River.

Source: Google © 2011.

Figure 4.4: Commerong Island and the Shoalhaven River.

Source: Coast Base Map (Appendix D)
Kurt: “Oh, gees, it includes all this as well?”
Annalee: “Yeah, well it’s attached.”
Kurt: “Coz that’s the Crookhaven, not the Shoalhaven.”
Annalee: “Yeah I know.”
Kurt: “Well it’s all just the same.”
Annalee: “Well it’s all attached so I figured…”

The decision to include the Crookhaven River was made due to its proximity to the Shoalhaven River and its vital role as the connection to the sea. Although Kurt recognised this river as different, he accepted the reasoning for its inclusion on the maps.

4.5 Focus Group Analysis

Analysis of the focus groups proved interesting to my research as the group dynamics altered the data shown and included in the maps. The number of people in the group did not seem to have an effect on the groups, however the composition of the group was significant. The Wednesday Group was an interesting comparison of how the participatory mapping exercise works in a one-on-one situation. There was also a dynamic evident in most groups of a main mapper, often the person who lived closest to the river.

The two methods of recruitment left two different group compositions. Word-of-mouth recruitment meant that groups were made up of friends, for example, the Farm Group and Girls Group. Contacting the Shoalhaven University Campus and Mannahouse Church produced groups of people who were previously unknown to each other or who were acquainted through work or education. The focus groups containing participants who were childhood friends ran for a significantly longer time than all the other groups (Table 4.1 and Figure 4.5), while there seems to be no correlation between the number of participants in a group and the length of the focus group (Figure 4.6). These groups tended to have a more story-telling approach to the maps, finding places with stories, whereas the other groups were more factual.
Table 4.1: Focus Group Names, number of participants, relationship of participants and duration of the focus group.

<table>
<thead>
<tr>
<th>Group Name</th>
<th>Number of participants</th>
<th>Relationship of participants</th>
<th>Length of group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uni</td>
<td>5</td>
<td>Some aquainted</td>
<td>35min</td>
</tr>
<tr>
<td>Mannahouse</td>
<td>4</td>
<td>Work colleagues</td>
<td>31min</td>
</tr>
<tr>
<td>Farm</td>
<td>5</td>
<td>Childhood friends</td>
<td>59min</td>
</tr>
<tr>
<td>Guys</td>
<td>4</td>
<td>Not aquainted</td>
<td>38min</td>
</tr>
<tr>
<td>Three</td>
<td>3</td>
<td>Uni friends</td>
<td>29min</td>
</tr>
<tr>
<td>Wednesday</td>
<td>1</td>
<td>N/A</td>
<td>40min</td>
</tr>
<tr>
<td>Girls</td>
<td>3</td>
<td>Childhood friends</td>
<td>1hr 19min</td>
</tr>
</tbody>
</table>

Figure 4.5: The duration of the groups.

The Farm Group and Girls Group ran significantly longer.

Figure 4.6: The number of participants in the group and their duration.

There is no correlation evident.

These findings are interesting in light of what is recommended by many textbooks on focus group construction. These references suggest that groups of unacquainted participants will allow the researcher more control over the direction of the group and
acquainted participants will leave out information that the group is familiar with but the researcher may not be (Morgan, 1997; Hay, 2005). This research found that the groups that had pre-existing friendships produced more data and information about the locations notated on the maps than the groups where participants had no history together surrounding the river.

One focus group was conducted with just one person. This was done to compare and assess the benefits of group work with an unstructured interview format. The format of the maps used in this project was not conducive to interview style mapping. It was more difficult for the participant to use the three maps as they seemed large and overwhelming for one person on their own. In this exercise, the participant predominantly used the Nowra map as that was where most of his use of the river occurred. The participant did not want to include places that he did not visit, even if they were important, for example, when asked about popular places on the river he was hesitant to include them unless he had personally been there. This may also be a reflection on my positionality and relationship with the participant as he is another Honours student at UoW and was more informed about my project.

In regards to the discussion component of the focus group, this participant had a vast knowledge of the river and lives in close proximity to it. However, the lack of other people in the focus group limited his responses as there were things he could not recall, and said “I’ll probably remember more on the train on the way home” (David, Wednesday Group). There were no other people in the group to fill in the blanks for him, to consult with or to remember additional things as in other groups. The lack of other people meant that the things put on the maps were restricted to one person’s experience, possibly creating a slightly biased representation of the river. The interview-type group also meant that the discussion consisted of fewer stories and more facts.

Hay (2005) suggests focus groups of four to 10 participants to allow all participants to speak, as well as gain enough variety in the data. Although the number of participants did not seem to affect the groups, as seen in Figure 4.6, a group of one person was not conducive to a discussion, rather, just questions and answers, yielding
fewer stories. This exercise would work well with one person if the research had a more quantitative or less story-based approach.

In all the groups everyone contributed to the maps, however in most groups there were one or two people who, while not necessarily contributing more, notated more on the maps. These people would typically be the people who lived closest to the river. This demonstrates a level of ownership and local pride (see also Chapter 5) in the river.

The richness of the river narrative discussed in the focus groups is based on two components: 1) the relationship of the participants, with childhood friends sharing the most, and 2) the proximity of the participants to the river, with the people who lived closest to the river mostly leading the discussion. The number of people in the group did not seem to affect the data, but for a focus group situation, three or more participants are more conducive to conversation and one or two people do not form a substantial group.

4.6 Ethics

The ethics regarding the participants has been discussed in Chapter 3. During the 2011 Institute of Australian Geographers Conference at UoW, I attended some sessions on map use in Human Geography research, including a seminar called ‘Reflections of a Cultural Studies Researcher in the Geospatial Court’ by Dr Susan Luckman, which enlightened me as to the ethical considerations surrounding map-making and map use (this work is not yet published). Consequently, there is an important question to address regarding what I do with my research findings and the maps.

The participants in the focus groups did not seem to have any ethical concerns regarding the focus group or mapping process. There were no questions asked about the use of photos, maps or recordings other than general interest in my research. This shows either an excellent presentation of information in the participant information sheets or a lack of concern about the ethics of the project or a combination of both.
Participants were happy to share places and stories, with the one exception being a secret camping ground that, if shared, would lose its appeal.

Curry (1997) voices the concerns running through the literature, that the social impact of geodemographics and geographic information systems is greater than we think. Geodemographics has presented us with new problems in the form of privacy, surveillance and power. Curry argues that our ideas of privacy have shifted as a result of technological changes. This leads to questions regarding the integrity of GIS (Schuurman, 2004).

Although the participants were not concerned about the inclusion of their names on the map and the ability for this to possibly identify them in my research, the body of literature on the ethics of cartography and GIS has illuminated the issue so that the privacy of the participants is ensured. This is consistent with the requirements of the University ethics approval, further ensuring the privacy of the participants.

Transcription of the focus group recordings included inserting pseudonyms for the participants. When I came to the maps, some of the participants had written their names on places, especially houses. While this contributes to the sense of ownership regarding the maps and mapping process, it caused ethical concerns when using the maps in this thesis. To combat this issue, a pixelated graphic was inserted over the names so that the privacy of the participants is ensured.

Harley (1990) shows the shift in ethics of cartography and the labelling of places on maps. In America in the 1960s there was a shift to eradicate racist or stereotypic names from maps, while in Canada there was a move to include the traditional Inuit names of places. This relates to the ethics of respecting marginalised groups and what is presented on the maps. There were no (to my knowledge) indigenous participants involved with the focus groups. When recruiting, I contacted the Aboriginal Education Unit at the Shoalhaven TAFE as well as an Aboriginal Youth worker, however both these contacts said that they did not have anyone suitable for my project, or that it would be too difficult to organise. This may or may not have produced different results as indigenous people have lived on the Shoalhaven River
longer than European settlers (Evans, 2005) and may have knowledge passed down the generations, this highlights scope for further study.

As well as presenting the maps and findings in this thesis, the findings can also be applied elsewhere, in non-academic areas. Shoalhaven Council and other governing bodies in the area could use the information in this thesis to understand the views of young people and their needs surrounding the river. Would it then be unethical to take the information that the young people have given me and not tell council? Would that reinforce the young people’s views that their voices are not heard? On the other hand, advertising and tourist agencies would have access to this information and could potentially use it to exploit the young people and their use of the river. Would it be unethical to allow access to the information for these people? These are all questions that must be considered before, during and after research. These questions also beg further research as has been identified by this research as well as by O’Sullivan (2006).

An example of where these questions must be considered is Wombat Flats, a camping spot near the Shoalhaven River. Kathy (Uni Group) was reluctant to include it on the map because she claimed it was a secret and the beauty of the spot was that not many people knew about it. If a tourism agency were privy to this information they could exploit it and potentially ruin the beauty of the place.

With the creation of open source mapping, the users have become the creators (Harris & Harrower, 2006). This new group of map creators are not particularly concerned with the ethical implications of their maps (Curry, 1995). However, there has been much discussion and concern in the literature about the ethics of maps, especially GIS, and their uses and application (Fischer & Unwin, 2005). GIS will continue to be developed and so these ethical discussions will carry on. There is an urgency for these discussions to reach conclusions to prevent ethical issues arising.
Chapter 5: River Results

“Oh, the river was definitely such an important part of us growing up!”
- Corey (Farm Group)

The Shoalhaven River, originally settled for its abundant resources and rich farming land (Evans, 2005), has become an integral part of the lives of the local community and especially in the lives of young people who grow up there. It was shown to be important and valued by the young people who participated in the focus groups, demonstrated by the things said and annotated on the maps. They realised that Nowra would not exist without the river, that the river was not only important to them, but to everyone who lives in the town. In the focus groups there were a number of key topics that the young people spoke about in relation to the river. In this chapter I will discuss how young people are aware of the issues surrounding the river, the suggestions they made, the activities they participated in on the river, their views on the cleanliness of the river, and the importance of local knowledge when living near the river.
5.1 Uses of the River

Young people demonstrated their value of the Shoalhaven River partly in terms of its uses. The main uses they found for the river were fishing, jumping off rocks, water sports and camping. These uses were predominantly shared experiences, and in the focus groups the activities and locations were explained with reference to the groups that the activities were performed with. Gibbs (2006) discusses the complexities of valuing nature and water in particular, noting that historically, environmental value was based on utility, however now it encompasses a wider range of attributes, such as cultural attachment, and aesthetic value (discussed in section 2 of this chapter). Pfluger, et al. (2010) discuss the variables important in assessing rivers. Along with the traditional biophysical attributes they include the broad categories of naturalness (the degree to which the river is unmodified), amenity value (the potential use of the river for recreation) and aesthetic value (the extent to which the river is valued for its beauty). The focus groups revealed that the aesthetic and amenity values of the river were of added importance to young people living on the river. In this section of the chapter I will discuss the river’s amenity value and in section 2 I will discuss how young people view the river’s aesthetic value.

Jump rocks seem to be a central activity to the river, especially with the people who lived closest to Nowra. The jump rocks became the central point in their lives as they went there, not only to jump off the rocks, but also to socialise:

(Farm Group)
Corey: “… we use the river more as a place to jump off rocks and chill out and swim …”
Trent: “I guess it’s a good place to sit and chat as well … we’d just sit there for hours and just talk.”

There was also status and ‘street cred’ associated with the rocks that young people had jumped off:

(Farm Group)
Mike: “It was kind of a status thing back in the day.”
Corey: “Yeah, if you jumped off the bridge … you were hardcore I guess.”
Corey: “And so Lizard is kind of like where you start … three or four metres high, and then it was where you go when you are too scared to go anywhere else.”

Corey: “… when we were younger, we used to hang around the Grotto and all this area, but then once we thought we were a bit more hardcore, we progressed to the bigger rocks.”

(Girls Group)
Ashleigh: “It was like a big feat to jump off the Nowra bridge.”

These quotes demonstrate that the river is not only important for the young people today, but throughout their childhood as well. There are memories associated with place, which creates an unseen value that resides in the minds of the young people; it becomes a landscape of nostalgia (Waley, 2000). This displays the social value of the river (Sofoulis, 2005; Allon & Sofoulis, 2006), with the jump rocks influencing the young people’s status in their social groups.

As well as the jump rocks there were a number of other uses of the river that proved important for the young people. Fishing was one of the main activities spoken of by the groups, although it was not a frequent activity: “We used to occasionally, like very rarely, go fishing” (David, Wednesday Group). The Girls Group spoke of fishing in the past tense, an activity done with school: “Coz we used to do fishing for sport” (Kelly). The use of the river as a place for fishing was only ever a sporadic event for the young people, although they realised the importance of fishing as a river activity, “For a better experience of [the river], get out amongst the fishermen up here…” (Charlie, Guys Group). This quote from Charlie not only shows the importance of fishing on the river, but also the spatial pattern of fishing. Charlie indicated the section of the river east of the bridge as where to find fishermen, a point that was earlier annotated on the map and mentioned in the group: “and this end’s more for fishing” (Charlie, Guys Group).
Around the world, rivers are used for recreation as people search for natural areas they can enjoy while satisfying their recreational needs (Shrestha et al, 2007). The Shoalhaven is no different, with young people seeking out places on the river to participate in recreational activities. Water sports along the river mainly included water skiing and wakeboarding, canoeing, kayaking, surfing and jet skiing. The river was also frequently used for camping. There were a number of camping places noted along the river, including those visited on school camps. These camping places were usually associated with the people who used them, such as family, friends or sport groups.

The activities undertaken on the river by the participants were usually associated with groups:

Doug (Guys Group): “Yeah, so we’d use the river like when we do the training so that’s, that’d be with my immediate family, but also a few of the younger guys from boxing. Fishing’d be with the fishing mates and surfing’d be with the surfing mates.”

The participants named places they went to with their family, school and friends from school, for sport or with other social groups, often naming specific people.

Rivers and other water bodies are places of important social interaction (Kaika, 2004), rivers bring people together (Waley, 2000) and the Shoalhaven River is no different. It is intensely social, used as a meeting place for young people after school, used for sporting groups both on and beside the river, and even as a “hook up place” (David, Wednesday Group).
5.2 Aesthetics

The cleanliness, or aesthetics, of the river was one of the themes that emerged clearly through the analysis of the focus group transcripts and the maps. Along the Shoalhaven River there were sites and areas that were defined as either dirty or clean, and thus good or bad for recreational use and aesthetic value. The Uni Group defined a clear border between the “pretty” and “dirty” side of the river, this is discussed further in section 3 of this chapter. Traditionally, amenity was not considered as important as utility value, but today environmental values are changing and complex (Gibbs, 2006). Aesthetic value is prominent and often goes hand-in-hand with utility value.

The young people were aware of how the river’s cleanliness affected their usage of it. Chelsea (Mannahouse Group) joked: “That’s Grey’s Beach which is really beautiful (all laugh) it’s not really, it’s like dirty sand.” She later said that she rarely swam in the river. Some areas of the river were littered with shopping trollies. The young people are aware of this issue, but only in terms of how it affects them, for example, it has stopped them from jumping in and swimming in the river in certain places. Mike and Jake (Mannahouse Group) lived in Jervis Bay but spent time near the river growing up and with church activities. They said they mainly liked to swim in Jervis Bay rather than the river because it’s cleaner. Jye (Uni Group) said: “There’s disgusting things I know about the river, I wouldn’t jump in,” and Beth concurred saying: “It’s a bit gross up that end” (pointing to the coastal end labelled ‘dirty’).

Some of the reasons given for the river being dirty include the industrial area at Manildra processing wheat: it’s a “massive polluter” (Sean and Lisa - Three Group). Farm floodgates are also named as a polluter:

(Uni Group)

Jye: “And there'd probably be more fishing in Greenwell Point except everyone blames the trawlers for there not being any fish, but it’s the flood gates from the dairy farmers that stops the fish breathing.”
Kathy: “What’s a flood gate from a dairy farmer? Just coz I’m naive.”
Erin: “Is that that smelly place on the river?”
Jye: “Well, yeah, they do smell, yeah.”
Erie: “And all the stuff comes in, that’s so gross.”
Jye: “It builds up behind the flood gates, that’s coz they don’t open unless . . .”
Kathy: “And what are they letting out? All the cow poo?”
Jye: “Yeah, a lot of acidic stuff builds up.”
Kathy: “Is that why the river stinks and I don’t want to swim in it?”
Jye: “Yeah, probably.”

The floodgates cause the river to be dirty in terms of water quality and smell, influencing people’s views of the river, even if they were not directly using it.

Historically, rivers are socially constructed as ‘bad water’ because they are natural and non-processed. Kaika (2004) discusses how through modernity we have sought socially constructed ‘good water’ by creating processed water bodies, particularly in the home, such as pools and spas. Apart from avoiding bad water, she shows how modernity presents the idea that “swimming in rivers and lakes . . . [is] a negative and potentially harmful activity” (p. 268).

This thesis demonstrates that not all natural water is bad or constructed as bad. The Shoalhaven River, although some of it was defined as ‘dirty’, was shown to have sites of significance along it demonstrating that natural water can be constructed as good, even though it is not processed or purified. The predominant use of the river shown by young people was for water sports and swimming; this disputes modernity’s construction of natural water (Kaika, 2004) and shows that far from rivers being harmful and negative, they are a positive and social experience for young people. And although the cleanliness of the river affected their use of it, the participants generally did not avoid the whole river, usually only parts of it.

Although the river was said to be dirty in part, a good side of the river came through and most participants were advocating the river for its aesthetic value.

Ruth (Uni Group): “Everyone gets their formal photos3 . . . taken at the river beforehand” (also mentioned in regards to wedding photos in the Mannahouse Group).

3 ‘Formal photos’ refer to photos taken when dressed up in formal attire, such as for school end-of-year events, weddings and the like.
Kathy (Uni Group): “I’m surprised with such a beautiful river it’s not more set up to be utilised and a lot of it’s wasted.”

Chelsea (Mannahouse Group): “I do think the river’s beautiful, but very underused.”

(Three Group)
Lisa: “I drive along here and think it looks pretty.”
Sean: “It does look nice there, the sunset over the river.”
Kurt: “Just the whole thing.”
Sean: “It’s a nice river.”

Kurt (Three Group): “It’s all pretty pretty up here, have you been to the lookout at the showground?”

The river was also shown to be particularly important for many participants regardless of its state of cleanliness.

Corey (Farm Group): “Oh, the river was definitely such an important part of us growing up.”

This conflicts with modernity’s construction of water (Kaika, 2004), as the water is not seen as overly harmful or negative, but rather as a positive and essential part of growing up in Nowra. This shows the importance of natural environments for young people (Panelli & Roberston, 2005).

5.3 Local Importance

Young people realise the importance of the river to Nowra: “We’ve often talked about the river as the only thing Nowra’s got going for it” (Corey, Farm Group). Nowra, like many Australian towns, was settled and built with a river as its centre (Australian Bureau of Statistics, 2003; Gibbs, 2009). Rivers play an important role in towns and cities all over the world today (Desfor & Keil, 2000). The participants in the group demonstrated that the river was important for them growing up, but have also come to understand its importance in the wider community.
The significance of the river being such an important part of the community is that the infrastructure and cultural places are centred around it. Lisa and Sean discovered this while creating their maps:

(Three Group)
Lisa: “My analysis shows that I really stick to my area.”
Sean: “Yeah, I’ve realised that too.”
Lisa: “I do everything in my own zone, don’t I?”

![Figure 5.2: Portion of Three Nowra Map. The red ellipse indicates the extent of annotations by Lisa for her everyday use of the river.](image)

The river is especially important for the young people of the Shoalhaven, as noted by Corey in his statement that the river was an important part of their growing up. It provided the young people with a connection to nature (Waley, 2000; Whatmore, 2006).

(Girls Group)
Ashleigh: “… We didn’t think much of the river really, like coz the beach was more important to us really.”
Kelly: “Oh, I don’t know if I would say that. I liked the river.”
Jess: “… when it was open, windsurfers liked it a lot more and that’s when the community was more based around the river …”
The girls who lived on the coast were divided as to whether the river or the beach was more important. They did realise that even if they preferred one over the other, the river was still an important part of the community.

The young people’s comments showing their understanding of the importance of the river as well as their responses regarding the aesthetics of the river demonstrated an element of local pride in the river, especially amongst the participants who lived closest to the river. The river is important to them particularly in terms of the social connections, memories and activities done on the river. Most of the places annotated on the maps were associated with people, activities and memories. “Hayden made a video of us jumping off [Big Red]” (Corey - Farm Group). The locals were also more willing to swim in the river and put up with any dirtiness than people who used the river but lived further away.

The participants who lived most locally to the river, although critical of the dirtiness of the river, were protective of it and demonstrated a pride in the river. In the Uni Group, Jye, who lived south of Nowra, commented on the state of the river near the inlet at Culburra, eliciting a protective response from Beth, a resident of Culburra:

Jye: “And all the sewerage pits all around Culburra and that area …”
Beth: “Are you trying to diss Culburra, are you?”

In the Mannahouse Group when one of the participants made a remark about Jervis Bay being cleaner and better, another participant jokingly took the slight to the river personally:

Mike: “It’s kind of just a lot better.”
Chelsea: “Oh wow, ouch.”

Although the comments were said jokingly and in fun, it does display a certain element of local pride in the river, almost like any reflection on the river is a reflection on them. This supports Gibson’s (forthcoming) article regarding local pride and how humour acts as a form of “cultural politics” in the case of Albion Park.
residents responding to their labelling as ‘bogan’, and Jeffrey’s (2011) remarks of how young people use humour to reproduce and contest social conditions.

The participants in the Three Group asked where I live. When I told them the Sutherland Shire they made a few Shire jokes. Shortly after they were talking about oysters:

Kurt: “They do oysters in here if that helps, very famous oysters, its called Oyster Bay.”
Lisa: “Yeah.”
Sean: “Like in the Shire.”
Kurt: “But ours has good oysters.”
Sean: “Ours is cleaner, nicer.”

There is a sense of pride and ‘localness’ in being better, or saying that you’re better to promote where you are from. Tuan (1977) remarks that people everywhere tend to regard their homeland as the centre of the world, and people who claim this consequently believe that their homeland has an irresistible worth. The rest of their world is perceived through their homeland, which becomes the central cardinal point on their mental map. This attachment to homeland is referred to today as local pride. Although young people are aware of the flaws of their homeland they embrace them, or other characteristics that enable them to view their place as the ideal centre of the world (Tuan, 1977; Gibson, forthcoming).

Another theme from the focus groups was the mentioning of other people. There were a few contexts for this, but mainly to either locate a place by association or in reference to a memory of the place experienced with others.

Chelsea (Mannahouse Group): “Oh, what was that place we went to ages ago with Hannah and Joey?”

(Uni Group)
Erin: “Oh, so where Brian lives, ok, making sense to me.”
Beth: “Does he live on Commerong Island?”
Erin: “His dad runs the ferry, he lives this side of it.”
Other people were also mentioned in regards to the activities that are undertaken on the river. Lisa (Three Group) “Oh wakeboarding…with my friend’s and uncle’s boat. I don’t have one.” Place is social (Kaika, 2004) and the above quotes demonstrate this by showing that places are remembered and referred to by the people that participants associate with it. Waley (2007) reflects that people are drawn together by the river, and here we see that even when people are apart, they are connected by places and memories on the river.

There were also places along the river that only locals knew of (Figure 5.3):

( Uni Group)
Kathy: “And Wombat Flats … that’s the best hidden secret of Wombat Flats, but you have to have a fourwheel drive to get to it.”
Annalee: “Do you know where it is?”
Kathy: “Yeah, but it’s a secret. If I put it on your map then people would know.”

Kathy wanted to protect the camping place that she knew of. For her the beauty of the place was that it was only known by select locals.

Figure 5.3: Portion of the Uni Nowra Map showing the general area of Wombat Flats camping ground.
5.4 The Divide

The first focus group, Uni Group, divided the river into the dirty and pretty side of the river (Figure 5.4).

Figure 5.4: Portion of the Uni Nowra Map showing their division of the river into a dirty and pretty side. Note the line slightly west of the bridge marking the divide.

The Three Group did refer to this divide, although they did not notate it on any of their maps:

Kurt: (talking about the western side): “Nah, nah, see that’s all pristine and stuff and this is all just dirty” (the eastern side)…

Sean: “I wouldn’t say dirty, I’d say that there’s industry there.”
The Girls Group demonstrated this aesthetic divide of the river as well, drawing an east-west divide of the river near the coast into ‘smelly’ and ‘nice’. This complements what the Uni Group drew as it provides an end point for smelly or dirty area that was annotated. A horizontal line can also be seen on this map, and although it is not labelled, it was said to signify the area of the river that they used. The girls said they did not use the river much south of this line.

The Guys Group also divided the river into two halves, with the bridge as the line of the divide. Through their discussion they came to agree that the bridge divided the river both ecologically and also through its uses. On one side the river was “generally a lot deeper and not so much wider” (i.e. narrower) (Stuart - Guys Group) and “it gets wider and more shoal as you go east” (Greg - Guys Group) on the other side. Speaking of the recreational divide of the bridge that stems from the physical properties of the river, it was noticed that:
Doug: “The ski park’s for like recreational boating …”
Charlie: “And this end’s more for fishing …”
Stuart: “… they do fish and do a little bit of skiing at either end, but generally like you’d almost use that bridge as a line.”
Charlie: “Yeah, the bridge is like a symbolic divide of the recreational and the fishing.”

![Figure 5.6: Portion of the Guys Nowra Map showing their use of the bridge and road as a divide for recreational boating and fishing (red arrows added by me).](image)

The bridge also acted as a divide for the land use surrounding the river. “I guess [farming’s] nowhere near as common as like, again, this side of the divide” (Doug - Guys Group, talking about farming on the eastern side of the bridge).

Stuart: “There’s plenty of caravan and camping grounds … like there’s a heap between here and there”
Doug: “But none again, that border … the bridge really does act like a border when you think about it.”

The Three Group divided the river either side of the bridge by easy or difficult access, as did the Guys Group. The interesting thing is that they divided it differently. The Guys Group claimed that the western side of the bridge was easier to access, while the Three Group claimed that it should be the eastern side. This could be because they were approaching the river from different sides, the Guys Group from the south and the Three Group from the north. As seen in Figure 5.7, the access is inhibited by farmland. Farms are close to the river on the southern side, preventing people and boats from entering. On the northern side of the river there is a road close to the river (as seen by a thin black line in Figure 5.7), which assists access. This is similar to the western side of the bridge, which has more development near the river.
Figure 5.7: Portion of the Guys Full Map showing the division of the river into areas of high and low access.

Figure 5.8: Portion of the Three Full Map showing one side of the river to be easier access.
People are interested in divides and boundaries (Jones, 2009). Boundaries create order and although may not always be visible, they are apparent on every level, from the international to the local and micro scale (Newman, 2006). On a macro scale, Istanbul is divided into European and Asian sides by the Bosphorus Strait and is linked by two bridges (Mak, 2008). On a smaller scale, the Shoalhaven River is divided the other way by its bridge into the two halves of the river. As mentioned earlier, there are a number of attributes that are used to categorise this divide by the focus groups.

The study of borders has been predominantly geopolitical in nature. However, a recent shift in the subject and its theories has embraced a wider range of academic disciplines, therefore increasing the boundaries that are of significance to this field (Jones, 2009). The bordering process is a new topic of interest, rather than just the study of the boundaries themselves (Abbott, 1995; Jones, 2009 & 2010). Abbott (1995:857) claims: “It is wrong to look for boundaries between pre-existing social entities.” The purpose of this study was not to seek and define boundaries along the Shoalhaven River, however borders along the river was a theme that emerged in the focus groups.

While annotating the maps and talking about the river, the young people inadvertently classified different places. They classed the river in regards to access, uses and cleanliness. From these classifications, boundaries became apparent and were included on the maps. The boundaries were not sought after, as Abbott (1995) warns against, but appeared in their discussions. This process of creating borders that are fluid and ‘inchoate’ (Jones, 2009:183) contributes to this renaissance of bordering literature, showing that borders and boundaries can be created from the features that appear, rather than out of necessity (Abbott, 1995; Jones, 2009).

5.5 Issues Surrounding the River

Young people are aware of and interested in the issues that surround the areas of the river they use, and they have suggestions as to how the river could be better used.
Although they are interested in the issues they are not aware of what the local council has done to try to include them. Council has created the Community Strategic Plan for 2020 (Shoalhaven City Council, 2010b) with four main focuses: community, environment, economy and leadership. There was a separate plan for the engagement of the community to find out what they wanted for the Shoalhaven.

Council held focus groups as part of the community engagement plan, with three specifically for young people. However the young people were recruited from the youth centre program, creating a bias against those who did not attend the youth centre because they were involved in other clubs (CSP, 2009a and 2009b). The participants involved in my project were unaware of the Community Strategic Plan, which, while addressing some similar issues to the those raised in this research project, were largely aimed at concerns that came from an older community, such as economics and climate change rather than cleanliness of the river. As this plan has only recently been released, the young people were not aware of it, and may not be until its completion.

The participants of my focus groups seemed to be aware of a range of issues surrounding the Shoalhaven River. The groups were mainly concerned with the issues that affected them personally. The participants who lived and used the river near Nowra were concerned about issues such as the potential construction of a second bridge, the potential knocking down of the pool and the usability or appropriateness of the entertainment centre. Participants who lived near or used the coastal end of the river and the beach were more concerned about sand dredging and other coastal issues.

The five main concerns commented on by the groups were as follows:

i. **Sewerage and runoff**: there is concern about the effects of the sewerage pipes running under the river and the runoff from farms into the river, possibly preventing people from swimming.

ii. **The Bridge**: there is a dispute in council about building another bridge. The young people want it and the population of Nowra needs it to reduce traffic
but there is an endangered tree frog living in the place they want to build it, jeopardising the proposal.

Erin (Uni Group), spoke about the issue of another bridge being built, but mentioned there is “the green tree frog and it’s endangered or something.”
Kathy: “It’s a nice bushwalk.”
Erin: “I’d rather a road though, to be honest.”

For Erin and others, the community’s need for a road was more important than the environmental needs. This is also seen in the next issue, where the cleanliness of the river is seen as more important than environmental concerns.

iii. **Dredging**: The council is discussing the dredging of the river mouth to open it to the sea again. This would be good for the river and make it cleaner, but there is a small bird living near the area they want to dig. The young people feel that the bird is not in danger and that the dredging would improve the water quality of the river and its ability to be used for recreation.

Hayden (Farm Group): “There’s meant to be, like, a protected species of birds, but they’re kind of off to the side anyway so I don’t think it would really effect them much.”

Kurt (Three Group): “But the thing is, like, where they break it, the birds are on the other side so it keeps everyone away, like everyone walking their dogs and stuff can’t go over and terrorize them.”

The young people are aware of the environmental issues and some of the arguments surrounding them. However, there is either a lack of communication regarding exactly how these issues affect dredging or council has not properly investigated these environmental issues.

iv. **Pool and Entertainment Centre**: A new entertainment centre has been built for the community, however the participants were not part of the consultation process for this development and felt that it does not reflect their needs or interests. The centre has held a few shows but there has not been much support from the community. Council also wants to knock down a historic
pool that is used by the community, to build a hotel for the entertainment centre. The young people felt that this was unnecessary due to the failure of the entertainment centre, and although there was a new pool in Bomaderry, the old one has historical value.

v. **Hospital Expansion**: The hospital wants to expand its facilities, however it is on prime land near the river, which the young people felt could be better used. Residents feel it would be better to move it to South Nowra where there is more land and it is away from the river. They are concerned it will outgrow the place it is in at the moment. The participants were concerned that this is too short sighted and plans need to be made further ahead.

The young people understood these issues and made a few suggestions regards to them. For most of these issues the participants made it clear that someone else was responsible and did not feel responsible themselves. They believed they had adequate solutions to the problems. A sense of powerlessness could be the cause of their directing responsibility at others. In the Community Strategic Plan, young people were only mentioned in regards to them moving away to look for employment or education, and the community suggested there needs to be more activities and opportunities for children and young people, however specific activities and opportunities were not defined (Shoalhaven City Council, 2010b).

Along with the awareness of and concern for issues, the groups also had suggestions for what they thought could be done and how the river could be best used. Suggestions were not specifically sought as they were not part of the initial research question, but all the groups volunteered them, even though they were aware I was not associated with the council. For example: “Can we offer suggestions?” (Chelsea - Mannahouse Group). “Did you want suggestions?” (Kathy - Uni Group). Kurt (Three Group) asked me to “keep that noted,” in reference to a suggestion made about more cafés near the river and Charlie (Guys Group) said: “I guess I’ll just say for the record…” The participants were aware that I had little influence with council and that I was just a university student, however, they felt that by telling me their suggestions and thoughts and having it ‘noted’ or ‘recorded’ it would mean something more.
Jake (Mannahouse Group) joked to Chelsea after she asked to make a suggestion “whatever you say is gonna happen, so be careful!” Although this was said as a joke, I think that most jokes have an underlying truth; in this case, they are assuming that nothing they suggest or think should happen to the river ever does. As they did with local pride, the participants used humour as a form of “cultural politics” (Gibson, forthcoming) to contest the social conditions and demonstrate their feelings of marginalisation (Jeffrey, 2011).

Most of the participants saw the potential the river has to become more than it is. Many of their suggestions were based on what the council should do, or what other people should do. The irony of this is that few of the participants were aware of various schemes and campaigns that they could be a part of that are trying to make a difference. The young people think that their view is not going to be heard so they don’t try to voice it. Kurt’s perception (whether true or not) is that:

(Three Group)
Kurt: “Basically the problem is everyone in Nowra’s an idiot and they’ve got this nice, lovely river and can’t work out how to utilise it.”
Sean: “Yeah, we definitely think it’s got a lot of potential … we just need some council approval and someone with a bit of cash that’s willing to invest and a lot of energy and something will happen.”

Whatever the truth, there is evidently a gap in the decision-making process, whether it’s poor communication or poor decision-making or both. The young people are displaying a need for a stronger sense of responsibility and council is revealing a need for them to check their decision-making process. The suggestions made by the young people can be seen in Table 5.1.

Interviews with council members gave evidence of the various schemes in place to include people of all ages in their planning and the openness of the various forums they conducted. However, the young people were not aware of them. This demonstrates that there are problems with the mechanisms for community development research and finding out what people think. Assumption is part of the problem, with council assuming they are getting a varied opinion and young people assuming that council is not looking for their opinion.
Table 5.1: Suggestions made about the river by the young people.

<table>
<thead>
<tr>
<th>Focus Group</th>
<th>Suggestions</th>
</tr>
</thead>
</table>
| Uni         | - more BBQs and picnic tables  
- showers along the edge to wash off after a swim  
- another bridge over the river |
| Mannahouse  | - there needs to be more going on in the CBD  
- make boardwalks along the river  
- more gift shops and cafés and eateries like Berry  
- places with jazz bands and live music  
- a wave pool |
| Farm        | - dredge the river for better flushing and surfing |
| Guys        | - generally, to utilise the river better and make people appreciate it more |
| Three       | - cafés and coffee shops  
- dredge the inlet so that the water can flow out and get cleaned |
| Wednesday   | - an esplanade |
| Girls       | - a bridge over the river near the coast  
- more tourist shops and development on the coast |

Although children and young people represent a large portion of the population, their voices are largely missing from a number of academic debates (Matthews, et al. 1999; Panelli, et al. 2002; Aitken et al. 2007). This is also true of society where the voices of young people are missing from social and cultural planning. Planners are increasingly becoming aware of the importance of young people and their relationship with their environment, and though attempting to include them in planning practices, this is not yet the norm (Freeman & Vass, 2010) and the inclusion of young people can often be tokenistic, causing them to lose faith in the system.

Children and young people are still seen to be, as a group, among the least powerful within Western societies (Matthews, et al. 1999).

The findings from the focus groups demonstrate what is discussed in the literature, that young people are eager for their ideas to be heard. Young people are a large part of society and when presented with the opportunity for their voices to be heard they
were willing to share. Many of the young people were unaware of the structures in place by the council for them to share their opinion, which suggests a degree of tokenism in place, such as warned of by Matthews et al. (1999):

(Three Group)
Kurt: “We’ve got one of them council’s that are stagnated, the same people for the last 30 years or something.”
Sean: “And they’ve still got their ideas from 30 years ago.”

The participants also made suggestions to me, both personally and about my project. Greg (Guys Group) and participants in the Mannahouse Group suggested that I should ask younger people, such as school children. I explained that that was my original idea, but the ethics process was too long. This comment supports my choice in the age of participants, because although I wasn’t able to use school-aged children, young people are definitely one of the primary user groups of the river. Stuart (Guys Group) suggested that I get a boat and go travelling down the river to understand how it is used. There is a boat tour, which runs, however he said it was not useful for seeing the river. Charlie (Guys Group) suggested going out with some of the fishermen or wake boarders to really get a sense of the river. Alex Kershaw has been commissioned by the Bundanon Trust as part of the SiteWorks project to do just this. He will be using video to tell the story of the river and the people who live on it, as well as exploring the connection between the speed of a motor boat up the river and the ‘psychological slowness of ‘river-time’” (Bundanon Trust, 2011).

Sean and Kurt (Three Group) suggested going to the showground to see Ben’s Walk and the lookout there. This suggestion was not necessary for my project, but just because they thought it was a lovely spot on the river, I did act on this suggestion and have included some photos I took (Figure 5.9 and 5.10).
Figure 5.9: The sign at Ben’s Walk and Lookout
Source: Annalee Moes

Figure 5.10: View from the Lookout near the Showground
Source: Annalee Moes
Chapter 6: Conclusions

The Shoalhaven River through the trees from the lookout on Ben’s Walk.

The data and results produced in this research project have addressed the aims of the research in light of the relevant bodies of literature, and have raised questions and topics for further research. This chapter reviews these results and draws conclusions about participatory map-making and the importance of the river for young people. Implications from this research are discussed and areas for further research are suggested. The conclusions drawn from the results address issues raised in the focus groups such as aesthetics, planning and uses of the river. The map-making component of this project proved to be a useful and effective qualitative methodology pointing to scope for further research and development. This research has implications for local council and their management of the river. It has raised further questions for research regarding rivers, cultural geographies and participatory map-making.

The young people who live in the Shoalhaven value the river for its aesthetic and utility values and regard the river as important to them; it is a central part of their lifestyle. The river is especially important to the young people who live near it, particularly as they are growing up. This study shows that the significance of the river decreases when young people move away from the river, however it still holds powerful memories and is utilised when they return. The river is also shown to be
a key social factor in the lives of young people. Young people mainly use the river in
groups as they form memories there and pass the time.

The participatory map-making element of this project was demonstrated to be an
efficient and useful data-collection method. There is scope for further research and
refinement of this method; however, for the sake of this project it produces important
results. It was found that groups of friends produced the richest data sources as they
had more stories from the river that they shared together. The one-on-one group did
not work as well for the needs of this project as there was little discussion about the
places on the river, mainly just indicating where they were and the main activities
undertaken, rather than stories about happened there.

The accuracy of the final maps in participatory map-making exercises is the result of
the power that is held by the map-makers. The accuracy of the base maps was
dependent on the accuracy of the data used to create them. My ideas of what a basic
map of the Shoalhaven River should look like further influenced the base maps; in
what they looked like on their own, as well as how they affected the discussions and
annotations of the participants. The participants commented on aspects of the maps
and whether they should be included or not. One group added the accuracy and
authority of a road map to their maps by consulting it in the process of annotating
their maps. The maps created through the participatory map-making process are
influenced, not only by the participants, but also by the creators of the base maps and
the data used to make them.

This research project yielded a proposal to present the findings to the Shoalhaven
Council. The young people provided serious suggestions for the river and surrounds
throughout the focus groups. One of the purposes of research is to provide new ways
of approaching real world problems, an example being these young people’s
suggestions. This thesis has brought to light some of the issues relating to young
people and the river. Presenting the findings to council may help reach a solution for
some of them. The desire for the young people to voice their opinions raises questions
of how different groups (such as young people and the council) view each other and
how this affects management and decision-making in the community. Even though
council has initiatives for obtaining the feedback and ideas of young people, the young people participating in this project were unaware of them, and consequently felt powerless in their community.

Areas of new or further research have been brought to light in this thesis. Themes raised by the young people highlight topics with room for further research. The methods used are part of a new concept in qualitative mapping research: using participatory map-making in a focus group setting. This methodology was successful and has much scope for exploration.

Themes brought out of the focus groups that warrant further research are mainly to do with the geographies of young people. There is a gap in the literature here and suggestions for further research include: studies of borders and boundaries as seen by young people; the voices of young people in environmental management; the gendered uses of rivers; and perceptions of nature for young people. A few groups mentioned ‘hook up’ areas (Figure 6.1) and one group mentioned a gay meeting place. A study of private or exclusive spaces on the river could stem from these comments.

![Figure 6.1: Portion of the Mannahouse Nowra Map showing the place they called the ‘kissing spot’](image)

Local myths and legends was another theme that arose in the focus groups. It was beyond the scope of this research to explore this issue, however it does present itself as an area for further research. The stories regarding Flos and Bo (Girls Group) and Little Pebble (Uni Group, Mannahouse Group, Farm Group and Wednesday Group) were shared and noted on the maps. These stories were almost always the result of second-hand information rather than the experiences of the participants themselves.
These stories were only known by the locals, and research into them, and possibly other legends surrounding the river, would contribute to studies of local knowledge and modern myths.

Participatory map-making in a focus group setting as a qualitative research method is relatively new and still being developed. There is scope for this study to be repeated with focus groups of more uniform compositions, investigating structures that were only touched on in this thesis such as number, relationship and gender of participants as well as a similar study being conducted with indigenous young people, as their families have lived on the river longer than the European settlers, which may or may not affect the importance of the river for them (Evans, 2005). Different styles of maps, as well as different structures of the questions used in the focus groups are also areas that could be further researched and developed to expand the use of this methodology.

Questions regarding the ethics of mapping are still being debated in the literature. A few questions that arose in this thesis include: Would it be unethical to take the information that the young people have provided and not tell council? Would this reinforce the young people’s views that their voices are not heard? On the other hand, advertising and tourist agencies would have access to this information and could potentially use it to exploit the young people and their use of the river. Would it be unethical to allow access to the information for these people? It is imperative that social theorists, GIS users and researchers together answer ethical questions regarding who should be allowed access to this data and who should be made aware of the findings of this project and others.

The general critique of cartography in recent years has challenged the methods of mapping and the uses of maps to provide scope for alternative uses of maps as methods. This project has demonstrated one effective use of maps as a method in focus group research and so encourages further exploration of maps in qualitative research. The map-making process also raises valuable questions regarding the ethics of mapping – an area that warrants urgent further research to prevent ethical mistakes occurring.
The most significant outcomes of this thesis are the findings relating to the value of rivers for young people and the use and evaluation of participatory map-making as a method. In regards to the value of the Shoalhaven River for young people, it is equally important for them in terms of its uses and its aesthetic qualities. There was a sense of local pride in the river that was demonstrated in the focus groups, especially by those that lived closest to the river. The mapping exercise helped to demonstrate these results and functioned as a useful prompt in the focus groups. Participatory map-making was shown to be an effective research methodology, with many applications in human geography and the social sciences.
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NSW DTDB OCT 2009 – © Land Property Management Authority 2009


Shoalhaven City Council, 2010b, Community Strategic Plan. Nowra.


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APPENDICIES:

APPENDIX A: Focus Group Questions

APPENDIX B: Participant Information Sheet

APPENDIX C: Participant Consent Form

APPENDIX D: Base Maps

APPENDIX E: Focus Group Maps

APPENDIX F: Metadata Forms

The new footpath beside the Shoalhaven River in Nowra.
APPENDIX A

Focus Group Questions
Focus Group Run Sheet

Introduction
Just to go over some of the things on the Consent Form, this focus group is being recorded and photographed and will be transcribed and used in my honours thesis. You are free to leave at anytime, but any contributions to the map may be used.

As you may have read in the Participant Information Sheet, I am doing my project on how the Shoalhaven River is significant for young people. This means discovering how the river is used, who uses it, when, what you do there, etc. I am also interested in seeing how this can be mapped. So to do this we will be filling out a basic map of the Shoalhaven River and talking about how we use the river, both now and when you were younger. I will be asking some questions, but mainly I want you to talk amongst yourselves about the discussion questions and answer and draw on the map as you see fit.

Discussion Questions (Prompts in sub-points)
Asking about both what they do now and what they did when they were younger, around 14 and before they could drive.

- Where on the river do/did you go?
  - Home
  - School
  - Travel

- What kinds of activities do/did you do in the places you indicated?
  - Swimming
  - Jumping off rocks
  - Bushwalking
  - Sport

- Who do/did you go to these places with?
  - Friends
  - Family
  - Extended family
  - School mates
  - Work mates
  - People in this group
- When do/did you go to these places on the river?
  o After school
  o On weekends
  o Summer
  o Winter
  o Holidays
  o Day
  o Night
- Is there any where on the river that you cant or wont go to? Why? DO you want to go there?
- How would you feel if you weren’t allowed to go to the river (name place on map they have shown they visit)? Why?
- How would you feel if they changed the places you go on the river? Why?
- Would you like them to change the places you go to?

Conclusion
- Are there any other places on the river that you go to that we haven’t discussed?
- Anything else you would like to add?
APPENDIX B

Participant Information Sheet
Participant Information Sheet

Significance of the Shoalhaven River

The Project.
The aim of this project is to investigate the significance of the Shoalhaven River for young people. I am interested in participatory map making and how that reveals significance of place.

The Purpose.
Young people are a large part of our community, however, they often do not have the opportunity to express their views on community issues. The purpose of my project is to explore the significance of the river for young people and the need for young people to be consulted in river planning and management.

What you will be asked to do.
Participation in this project involves participating in a ‘focus group’ session. This session will go for about one and a half hours, and will involve about five other participants. The session will involve the group discussing when young people use the river, who they use the river with, and how they use the river. A map will be used to facilitate this discussion and to show what areas of the river are used and how they are significant.

I plan to arrange a public display of the maps towards the end of the project. This will allow the participants to have added ownership of the project. Maps and photos from the focus groups will be displayed to give the participants an opportunity to share their work with others.

Please note:
Recordings of the focus groups will be securely held at the University and only accessible by the researchers. Pseudonyms will be used in the transcription and final report. Real names will be kept confidential to secure your privacy.

There will be no obligation to answer any of the questions during the focus groups and this will not affect your involvement in the project. Your consent can be withdrawn at anytime without consequence if you are unhappy with the project.

If any information about criminal activity is revealed during the focus group, the researcher is obliged to report it to the relevant authorities. To avoid this situation, answers can be generalised or any incriminating answers can be left unsaid.

In the event of any complaints, please contact the project co-supervisor, Professor Lesley Head at lhead@uow.edu.au or (02) 4221 3124 or the ethics office at rso-ethics@uow.edu.au or (02) 4221 4457.

If you have any further enquiries about the research please contact the project organiser: Annalee Moes (School of Earth & Environmental Sciences, University of Wollongong) at am937@uowmail.edu.au

Thank you for considering participating in Significance of the Shoalhaven River.
APPENDIX C

Participant Consent Form
SIGNIFICANCE OF THE SHOALHAVEN RIVER
CONSENT FORM

Consent for involvement in Significance of the Shoalhaven River
Annalee Moes Honours Project, 2011

Thank you for agreeing to participate in this research project. If you have any further questions please contact Annalee Moes as above.

This form indicates your consent to be involved in the project. The purpose of the form is to gain your permission for the researcher to:

• make an audio recording of the focus groups,
• take photographs during the focus groups, and
• display the maps created during the focus groups in a public exhibition.

The research is being conducted for the purpose of my honours project, which will contribute to the understanding of the Shoalhaven River’s significance for young people. Before giving your consent make sure:

• You have been given a project information sheet and understand what the project is about.
• You understand that the focus groups recorded for this project will never use your given names, pseudonyms will be used in transcription. Your real names will always be kept confidential to secure your privacy.
• Transcription of focus groups, photographs and maps will be used in my honours thesis, an academic journal article emerging from the thesis, and in a final presentation of the maps created.
• Your consent can be withdrawn at any time if you are unhappy with the project. Withdrawal of consent will have no consequence for you.

If you have any further questions or concerns about the project you can also contact my Honours supervisor, Dr Leah Gibbs: leah_gibbs@uow.edu.au

If there are any questions in regards to ethics, the Ethics office can be contacted at rso-ethics@uow.edu.au
I, __________________________________________, consent to participation in a focus group for the purposes of research in Significance of the Shoalhaven River.

I have been given a participant information sheet and understand the process involved in this research. I know that if I have questions regarding the project I can address them to Annalee Moes.

I understand that if I wish to withdraw, I am free to do so at any time without reason and without prejudice. I understand that all information provided up to the point of withdrawal can be used in the project, subject to reasonable conditions.

I grant permission for the focus groups to be recorded and photographed for research purposes. I also grant permission for extracts from the transcripts of the focus groups to be reproduced in University of Wollongong publications including the thesis and an academic journal article emerging from the research.

I give permission for the maps produced in the focus groups, photographs and excerpts from transcripts to be used in a presentation during the research period.

I understand that the data collected will be used for research purposes only and remains the property of the University of Wollongong. I understand that information gathered will be stored by Annalee Moes, University of Wollongong, for a minimum of five years for record keeping and administrative purposes only and will not be supplied to any other person or organisation for any other purpose.

Signed:_________________________________________  Date:___/___/11
Address:_______________________________________________________
Phone: ________________________
APPENDIX D

Base Maps

1. Full Base Map
2. Nowra Base Map
3. Coast Base Map
APPENDIX E

Focus Group Maps

Best viewed in A3 and Colour

1. Uni Full Map
2. Uni Nowra Map
3. Uni Coast Map
4. Mannahouse Full Map
5. Mannahouse Nowra Map
6. Mannahouse Coast Map
7. Farm Full Map
8. Farm Nowra Map
9. Farm Coast Map
10. Guys Full Map
11. Guys Nowra Map
12. Guys Coast Map
13. Three Full Map
14. Three Nowra Map
15. Three Coast Map
16. Wednesday Full Map
17. Wednesday Nowra Map
18. Wednesday Coast Map
19. Girls Full Map
20. Girls Nowra Map
21. Girls Coast Map
To fish, here is easier due to access of river (Flathead)

- Swimming, Picnics
- Diving, Fishing
- Canoeing
- Hunting, Fishing
- Spear-fishing, Snorkelling
- Surfing, Snorkelling
- Paddling, Ice-creams
- Picnic (Purple Island)
West Nowra?
If so then yes
but probably not
APPENDIX F

Metadata Forms

1. Points Metadata Form
2. Lines Metadata Form
3. Polygons Metadata Form
These points are constructed from the maps created by participants in the focus groups. Participants were asked to draw on the maps places that they used or that they felt were important on the river. Points were created by actual points drawn on the map as well as from points at the end of arrows that were indicating a particular place on the river.

Base maps were created using the NSW DTDB 2009. The maps were then annotated by focus groups. The annotations were digitized into points, lines and polygons.
The ethics for this project requires pseudonyms to be used. As the pseudonyms have not been inserted into this dataset it must be restricted.

<table>
<thead>
<tr>
<th>Attribute Name</th>
<th>Attribute Type</th>
<th>Attribute Description</th>
</tr>
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<tbody>
<tr>
<td>Focus_Group</td>
<td>Text</td>
<td>Lists the focus group that the point was digitized from</td>
</tr>
<tr>
<td>Map_Name</td>
<td>Text</td>
<td>Lists the map that the point was digitized from</td>
</tr>
<tr>
<td>Label</td>
<td>Text</td>
<td>any labels that were written on the maps by the participants</td>
</tr>
<tr>
<td>Comments</td>
<td>Text</td>
<td>comments about the point, what it relates to and/or what it looks like, amongst other details. Includes details about arrows linking points and labels.</td>
</tr>
<tr>
<td>Colour</td>
<td>Text</td>
<td>The colour pencil used. Stated if other medium was used.</td>
</tr>
</tbody>
</table>
These lines are constructed from the maps created by participants in the focus groups. Participants were asked to draw on the maps places that they used of that they felt were important on the river. Lines were created by tracing over the lines drawn on the map. Some of the thicker line appear as polygons. Arrows indicating a direction or route rather than a point, were also included in this file. The arrow heads were included as part of the arrow line.

Base maps were created using the NSW DTDB 2009. The maps were then annotated by focus groups. The annotations were digitized into points, lines and polygons.

NSW DTDB 2009 - ©Land Property Management Authority, October 2009
The ethics for this project requires pseudonyms to be used. As the pseudonyms have not been inserted into this dataset it must be restricted.

<table>
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<th>Attribute Name</th>
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<td>Lists the map that the line was digitized from.</td>
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<tr>
<td>Label</td>
<td>Text</td>
<td>any labels that were written on the maps by the participants</td>
</tr>
<tr>
<td>Comments</td>
<td>Text</td>
<td>comments about the line, what it relates to and/or what it looks like, amongst other details.</td>
</tr>
<tr>
<td>Colour</td>
<td>Text</td>
<td>The colour pencil used. Stated if other medium was used.</td>
</tr>
</tbody>
</table>
These polygons are constructed from the maps created by participants in the focus groups. The polygons were used to indicate actual polygons, writing and drawings annotated on the maps. Circle or ellipses were used to depict words. Drawings and other shapes were traced over. Polygons were also used to show areas that had been labelled as something and indicated as such in the focus groups, but not quite represented on the maps.
<table>
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<th>Attribute Type</th>
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<td>Label</td>
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<td>any labels that were written on the maps by the participants</td>
</tr>
<tr>
<td>Comments</td>
<td>Text</td>
<td>comments about the polygon, what it relates to and/or what it looks like, amongst other details. Also arrows pointing to and from it and extra labels.</td>
</tr>
<tr>
<td>Colour</td>
<td>Text</td>
<td>The colour pencil used. Stated if other medium was used.</td>
</tr>
<tr>
<td>Fill</td>
<td>Text</td>
<td>if the polygon was coloured in or just an outline. Some polygons were created to surround words or pictures</td>
</tr>
<tr>
<td>Outline</td>
<td>Text</td>
<td>if there was a separate outline drawn to surround a coloured polygon, word or picture. No entry indicates no outline.</td>
</tr>
</tbody>
</table>

Additional Information:
The ethics for this project requires pseudonyms to be used. As the pseudonyms have not been inserted into this dataset it must be restricted.

Fill out this template then print it to a PDF if you would like to create a digital 'final copy'