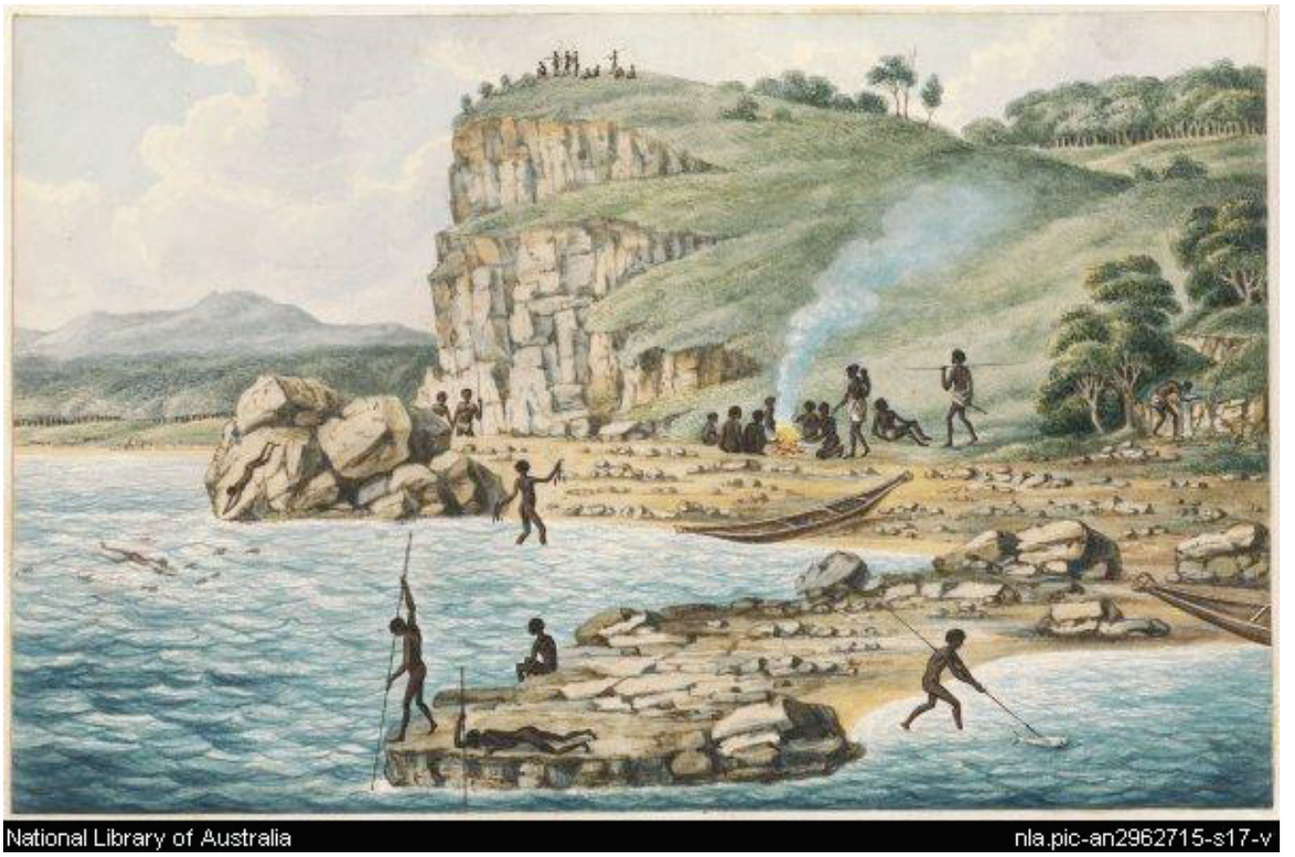
Sea countries of New South Wales: a benefits and threats analysis of Aboriginal people's connections with the marine estate



Sue Feary with contributions from Susan Donaldson
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Final Report to NSW Marine Estate Management Authority

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Image on front cover: Aborigines spearing fish, others diving for crayfish, a party seated beside a fire cooking fish, Port Jackson. Watercolour, Joseph Lycett (1775-1828).

Authorship:

The bulk of the report has been prepared by Dr Sue Feary, independent heritage consultant (Aboriginal archaeology), previously NSW protected area manager, including marine parks. Substantial sections of Chapter 2 were researched and written by consultant anthropologist, Susan Dale Donaldson, who has worked with south coast Aboriginal communities for many years.

Feary and Donaldson are currently working on an oral history project with Aboriginal knowledge-holders, to identify values and threats to Aboriginal connections within Batemans Marine Park. They have previously prepared a background report documenting these connections.

Acknowledgements:

Thanks go to Sarah Fairfull for her professional support, direction and advice in managing the project, and to other DPI Fisheries staff - Lesley Diver and Natalie Gollan; Joe Neilson for GIS support, Matt Carr, Justin Gilligan and Graham Bowley for information and advice. Drafts of the report were restructured and sections of the report were substantially rewritten in response to comments from MEMA agency staff and members of the Marine Estate Expert Knowledge Panel. Peer reviewer Associate Professor Stephan Schnierer is thanked for his constructive and useful comments on the draft report.

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Executive Summary

As part of the NSW marine estate reforms the NSW Government is applying a new threat and risk assessment approach to maximise community wellbeing derived from the NSW marine estate. Previous studies of community interests in the marine estate at Commonwealth and State level have recognised Aboriginal and Torres Strait Islander people as a component of the wider community with particular interests, rights and aspirations in regard to the marine estate.

The Marine Estate Management Authority (MEMA), an advisory body to the NSW Government, has sought to have a deeper understanding of how Aboriginal people's connections can best be addressed in future planning and management of the NSW marine estate. DPI Fisheries, on behalf of MEMA, commissioned a background report to identify the values and benefits of the NSW marine estate to Aboriginal people and to also identify existing and potential threats to these benefits. The benefits and threats analysis will feed into a broader threat and risk assessment process being conducted by MEMA at the state-wide scale.

This background report has explored Aboriginal connections with the NSW marine estate from when the present sea level was reached, around 6,000 years ago, through the turbulent period of colonisation, until the present day and into an aspirational future. The main sources of information included heritage and archaeological databases and reports, anthropological reports, ethnographic and ethnohistoric records, relevant government administration and legislation, and relevant Native Title information. An additional and important information source has been Commonwealth and State (NSW) studies into Aboriginal interests in marine environments, commencing in 1993 with the Commonwealth Government Resource Assessment Commission's Coastal Inquiry. Some studies have focused on specific locations or on resource use while others have identified a broad range of interests and concerns over a wide geographical area. Many of the studies included in-depth and extensive consultation with Aboriginal people, which has greatly enriched the literature and enhanced understanding of the values Aboriginal people hold for the NSW marine estate.

Aboriginal people have made full use of these previous studies to voice their opinions and views about the impacts of marine estate planning and management on their values and interests, and the degree to which they have or have not been recognised. An assessment of these views and issues raised over the last two decades suggests that for the most part, they have not been adequately addressed in NSW, although some improvements have been made. Advances include legal recognition of 'cultural fishing', special zoning in marine parks and greater participation in decision making.

The literature demonstrates some variations among coastal Aboriginal communities in different marine bioregions, including in the resources used, relationships with government agencies, spiritual connections [variation in totemic species] and concerns over whether or not Aboriginal rights and interests have been adequately recognised. Additionally, studies are patchy, with very limited information available at present on the Hawkesbury Shelf marine bioregion, which is also the focus of a separate risk assessment process.

For the NSW coast as a whole, Aboriginal people's connections are long standing and involve a complex interaction of spiritual links, customary obligations to care for Country, and sustainable use of its resources. These connections, that existed prior to white settlement, have continued on, and cannot be isolated from contemporary socio-political contexts. Hence contemporary connections are shaped by three main phenomena - traditional values, a desire to participate in the western market economy, and an agenda of rights and interests associated with a recognised prior ownership, articulated through Native Title and State and Commonwealth legislation and policy.

On the basis of the literature and database review, it was concluded that the greatest and most important benefits of the NSW marine estate to Aboriginal people are cultural connection and cultural identity associated with resource use. For this reason, marine resources have been included as a heritage benefit. While for most people, going fishing or collecting shellfish are recreational activities, for Aboriginal people, many in low socio-economic circumstances, the resources they harvest from the sea may be essential for not only their sustenance, but also their health and wellbeing and for identity as Aboriginal people.

Marine resources are important as a food source and critically important as the anchor for a whole range of socio-cultural behaviours and protocols that continue to shape modern Aboriginal society. These ways of doing things and the traditional knowledge that underpins them can be understood as heritage or cultural benefits in the context of this project. In particular, community harvesting of resources is an integral part of cultural identity as it enables people to get out on country where traditional knowledge can be passed on to the next generation.

Economic benefits of the marine estate is a very nuanced topic as Aboriginal economic benefits incorporate both the western market economy and the informal communal economy of sharing and exchange of goods and services. While marine resources are of critical economic importance in the Aboriginal non-market economy, the economic benefit of the marine estate to Aboriginal people in the market economy is currently very limited. Aboriginal commercial fisher numbers are declining and are less than during the mid-20th century. Aboriginal people attribute this decline to the introduction of share management fisheries, depletion of fish stocks and legal restrictions on access and use of some marine resources.

The benefit of 'aspiration' has been identified as relevant to this project and a useful tool in the process of achieving Aboriginal wellbeing. Aspirational benefit aims to capture the myriad of issues and concerns raised by Aboriginal people on countless occasions over the last 20 years. They recount what Aboriginal people would like to see happen in the future, as well as ideas on how to achieve them. Most aspirations concern greater recognition of Aboriginal interests and rights and greater participation in management of the NSW marine estate.

Identifying threats to the benefits Aboriginal people derive from the marine estate required a multi-layered approach as the same threats may affect more than one benefit and in some cases threats are nested. Any threats to marine resources potentially threaten other benefits, particularly social benefits. Development of the 'threats' table relied in part on the issues and concerns raised during previous studies, as they were considered to reflect potential and real threats.

Sources of threats to benefits of resources use and the integrity of the cultural/natural landscape , include physical threats, such as pollution, loss of habitat or depletion of stocks; legislative, such as restrictions on use; or cultural, such as loss of knowledge about the spiritual values of the seascape. Heritage/cultural benefits are also subject to other threats such as damage to physical heritage, or lack of appreciation of the integrated nature of land and sea by government agencies.

Threats to economic benefits are influenced in part by issues of Aboriginal socio-economic disadvantage that go beyond the marine estate. Insufficient action by governments to improve the situation of Aboriginal people through employment and economic development in relation to the marine estate is one example of a threat to economic benefits.

Threats to aspirational benefits are by and large due to not having a strong enough voice in decision making. How Native Title plays out in NSW in the future will have a profound effect on Aboriginal aspirations, as it may put them be in a more equitable position to achieve desired outcomes in regard to rights and interests over land and water including the NSW marine estate.

A preliminary assessment of the consequence and likelihood of the threats was undertaken to stimulate discussion on this topic at future expert workshops for informing the threat and risk assessment process.

The project has identified knowledge gaps where further basic data gathering is required, for example research into the Aboriginal connections with the NSW marine estate in the Hawkesbury Shelf marine bioregion. Detailed, place-based knowledge, using cultural mapping and participatory action research with local Aboriginal communities, may be required for refining benefits and threats as they relate to specific areas.

The final section of the report lists Aboriginal groups, families and individuals likely to be interested in the NSW marine estate reforms. Detailed advice on effective consultations with Aboriginal people notes the importance of using culturally appropriate methods of engagement and ensuring that it reaches the full range of knowledge-holders. It warns that Aboriginal people who have been consulted before may be sceptical of the value of being involved.

Glossary

Aboriginal/Indigenous/ATSI/ indigenous	In this report, Aboriginal refers to any members of the Aboriginal population of NSW who define themselves as Aboriginal. Indigenous or Aboriginal and Torres Strait Islander (ATSI) is used with reference to Australia's entire Indigenous population. Lower case indigenous refers to the first peoples of all countries in the world.
AFAC	Aboriginal Fishing Advisory Council
AHIMS	Aboriginal Heritage Information Management System – Aboriginal site data base held by OEH.
AIATSIS	Australian Institute of Aboriginal and Torres Strait Islander Studies.
Benefits	MEMA term for "community values". See Section 3.2.
BP	Before Present, used with radiocarbon dating figures.
'Country'	A term sometimes used to explain the spiritual connection between Indigenous Australians and the natural environment. *Country is a living entity with a yesterday, today and tomorrow, with a consciousness, and a will towards life. Because of this richness, country is home, and peace; nourishment for body, mind and spirit; heart's ease* (Rose, 1996: 7).
Cultural mapping	A research technique used for mapping places of past and/or current cultural activity, identified during oral history research. These may have no physical expression such as resource collecting places or Dreaming tracks.
CRUA	Cultural Resource Use Agreement
DPI	Department of Primary Industries (NSW)
FM Act	*Fisheries Management Act 1994*
IFS	Indigenous Fisheries Strategy
LALC	Local Aboriginal Land Council
Marine estate	MEMA term used to define the marine environment in NSW. Marine estate is defined in Section 1.2.
MEM Act	*Marine Estate Management Act 2014*
MEMA	Marine Estate Management Authority
National Parks and Wildlife Service	NPWS was established in 1967 and has since been renamed many times.
NPW Act	*National Parks and Wildlife Act 1974*
OEH	Office of Environment and Heritage (NSW), previously National Parks and Wildlife Service (NSW). NPWS is now incorporated into OEH.

CHAPTER 1

INTRODUCTION

1.1. Background

Aboriginal communities of the NSW coast and coastal hinterland have a long and unique association with the NSW marine estate. It has sustained them for thousands of years and continues to have a pivotal role in individual and community wellbeing. Aboriginal people continue to have a strong interest in how the marine estate is governed and managed in the context of their ongoing use of resources, cultural practices, religions and traditions.

This report presents the results of documentary and database research into Aboriginal people's connections with the NSW marine estate, from pre-contact times, through colonial history, until today and into the future. Arising from this research, the report aims to determine and articulate the values [community benefits] of the NSW marine estate to Aboriginal people and to identify potential and existing threats to the maintenance of these benefits and the reasons for the threats.

The benefits and threats identified in this report will feed into the Marine Estate Management Authority's (MEMA) new 5-step decision making framework (Marine Estate Management Authority, 2015). In summary, these steps are:

1. identify key benefits and threats to those benefits that the marine estate provides to the NSW community;
2. assess and assign risks to those threats so that management efforts can be focused on the most important issues;
3. assess the adequacy of current management settings and alternative options for addressing priority threats;
4. implement the most efficient management settings; and
5. be accountable to the NSW community in terms of monitoring the effectiveness of management settings.

This report is one of several inputs feeding into step 1, which focuses specifically on Aboriginal benefits and threats to those benefits. Other inputs into step 1 include environmental and broader social and economic benefit and threat information reports. These reports will also feed into step 2 – threat and risk assessments to inform several priority projects within the marine estate reforms Schedule of Works. The purpose of the threat and risk assessment as set out in the *Marine Estate Management Act 2014* is to: identify threats to the environmental, economic and social values (also termed "community benefits") of the marine estate; assess the risks associated with those identified threats; and to inform marine estate management decisions by prioritising those risks according to the level of impact on the community

benefits derived from the marine estate.

Step 2 will be applied by prioritising the threats to the benefits, including Aboriginal cultural and contemporary use benefits identified in this report. The outcomes will contribute to a broader understanding of the issues and risks to the social and cultural values of the NSW marine estate and will inform the following priority projects:

- The development of a new 10-year Marine Estate Management Strategy, which will outline how the NSW Government will respond to priority social, economic and environmental threats to the NSW marine estate and utilise other management opportunities to maximise community wellbeing.
- The Hawkesbury Shelf Marine Bioregion Assessment, which is identifying management options to improve biodiversity conservation while also maximising community wellbeing within the bioregion. Aboriginal engagement for this project has already been informed by this report.
- Piloting the new approach to marine park management and zoning at the Solitary Islands and Batemans Marine Parks.

1.2. Legislative and administrative background for marine estate reforms

The NSW marine estate is defined in the *Marine Estate Management Act 2014* (MEM Act) as:

- the coastal waters of the State out to the three mile limit (Commonwealth waters) .
- estuaries (being any part of a river whose level is periodically or intermittently affected by coastal tides) up to the highest astronomical tide,
- lakes, lagoons and other partially enclosed bodies of water that are permanently, periodically or intermittently open to the sea,
- coastal wetlands (including saltmarsh, mangroves and seagrass),
- lands immediately adjacent to, or in the immediate proximity of, the coastal waters of the State that are subject to oceanic processes (including beaches, dunes, headlands and rock platforms).

The marine estate in NSW is divided into five bioregions, each with distinctive ecological characteristics. From north to south, they comprise the Tweed-Moreton, Manning Shelf, Hawkesbury Shelf, Batemans Shelf and Twofold Shelf marine bioregions (see Figure 1).

Management of the NSW marine estate is currently overseen by MEMA, an advisory body consisting of an Independent Chair, the heads of the Departments of Primary Industries, Transport for NSW, Planning and Environment and the Office of Environment and Heritage (or their delegates) and the Independent Chair of the Marine Estate Expert Knowledge Panel.

MEMA advises the Ministers for Primary Industries and the Environment on management of the NSW marine estate, consistent with the requirements of the MEM Act. The Panel provides independent expert advice to MEMA spanning economic, social and ecological sciences. The Department of Primary Industries (DPI Fisheries) continues to have responsibility for the day-to-day operations of marine parks and aquatic reserves and provides project management and secretariat support to MEMA and the Panel.

Under the MEM Act, the NSW marine estate is to be managed as a single continuous system for the greatest well-being of the community, which includes maximising current and future economic, social and

environmental benefits. The Authority is responsible for overseeing the management of the NSW marine estate consistent with the principles of ecologically sustainable development in a manner that promotes a biologically diverse, healthy and productive marine estate, and facilitates:

- economic opportunities for the people of NSW, including opportunities for regional communities, and
- the cultural, social and recreational use of the marine estate, and
- the maintenance of ecosystem integrity, and
- the use of the marine estate for scientific research and education,

It is also responsible for promoting the co-ordination of the exercise of the functions of public authorities in relation to the marine estate.

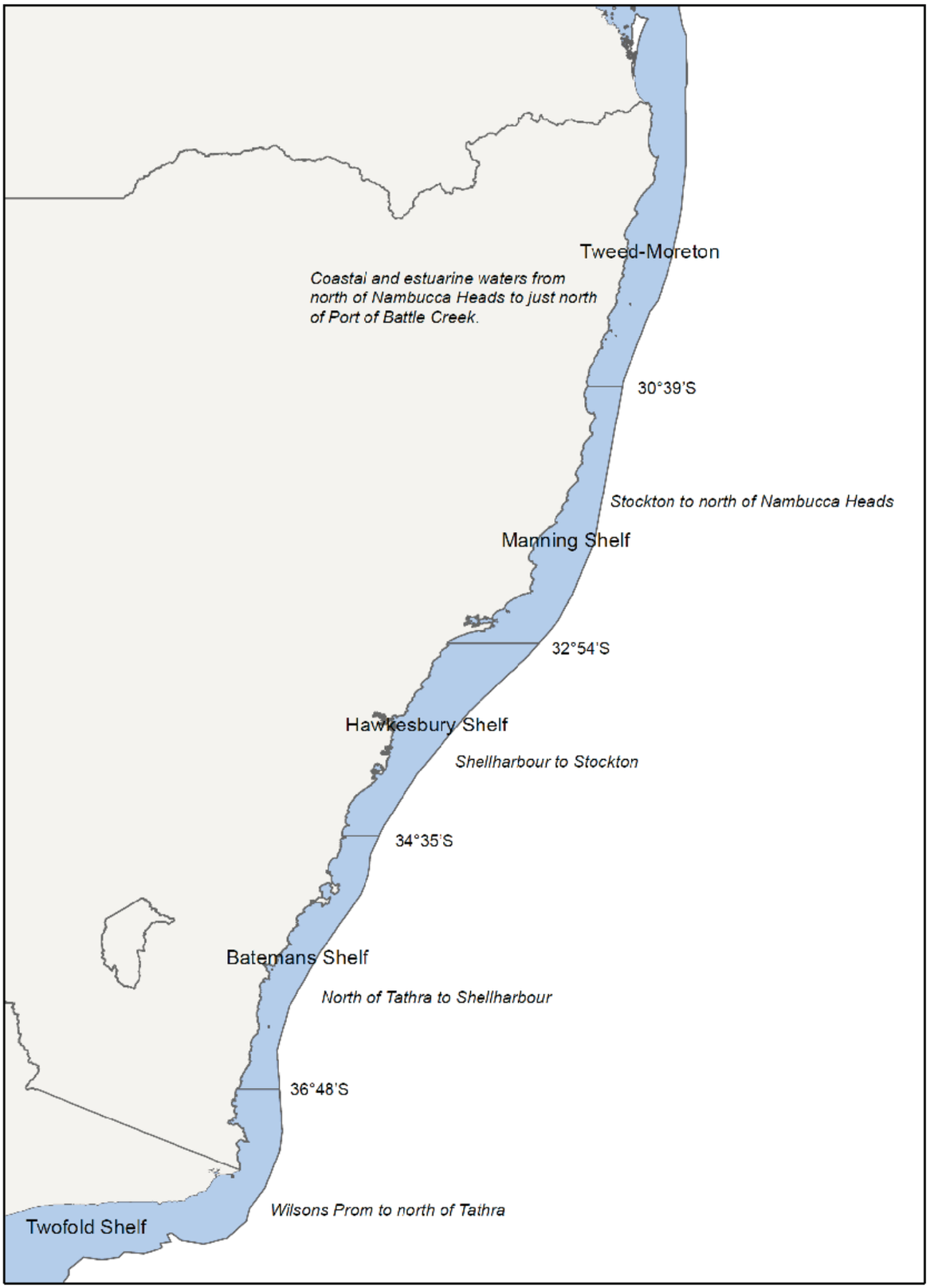

Figure 1: Map of the NSW marine bioregions. Source: NSW DPI.

1.3. Project objectives and outcomes

The full brief for this project is at Appendix 1. The objectives and outcomes are summarised as follows:-

Objectives

1. **Objective 1:** Collate and aggregate background information on Aboriginal values of the marine estate at a state-wide level and on current uses of the marine estate by Aboriginal people.

2. **Objective 2:** Provide descriptions of Aboriginal cultural heritage.

3. **Objective 3:** Provide descriptions of contemporary cultural heritage values and benefits.

4. **Objective 4:** Identify major gaps in knowledge concerning Aboriginal values/benefits and uses within the NSW marine estate that could assist in informing this and future similar projects.

5. **Objective 5:** Develop a comprehensive list of threats to Aboriginal cultural heritage values and uses.

6. **Objective 6:** Identify key Aboriginal stakeholders to review risk assessment report.

7. **Objective 7**: Recommend an appropriate consultation strategy to assist in the review of the draft outcomes of the risk assessment and to inform the development of culturally appropriate management responses to priority threats.

8. **Objective 8:** Prepare a draft report for review by MEMA and prepare a final report addressing feedback on draft report.

9. **Objectives 9 and 10** : Attend MEMA workshops and give presentations as required

Outcomes

1. Produce a draft report summarising the outcomes from the documentary research and addressing the objectives above for comment and feedback. This report will be reviewed by the Panel and MEMA agencies.

2. Produce a final report which will be subject to peer review and then submitted to the Panel and MEMA agencies to inform the threat and risk assessment for the NSW marine estate.

3. Present results of the project at MEMA risk assessment workshops.

1.4. Project structure and methods

Methodological considerations

The research methodology for this project was reviewed by MEMA agencies and the Panel in March 2015. The final methodology is at Appendix 2. The guiding principles developed by the authors and described below have also informed both the scope of and approach to this project:-

- It is noted from the literature that some Aboriginal people are uncomfortable with the term 'marine estate';

  "To me, when I think about the word 'estate', and think 'Government' and what was ours is now the governments…..'Lock Out'. It's all the things you could do but can't do anymore due to management." (Marine estate interest/user group, North Coast, Sweeney Research, 2014, p. 365).

  However, it is used in this report to be consistent with MEMA terminology.

- Aboriginal views were not directly sought in preparation of this report, but the authors note that the literature reviewed for this project contains many oral history records and interviews with Aboriginal people.

- While the emphasis is on the marine estate within the three nautical mile limit of NSW jurisdiction, studies into Aboriginal interests in adjacent Commonwealth waters are also highly relevant.

- Aboriginal connections with the marine estate were, and are, intimately linked to adjacent lands.

…'Indigenous people perceive the ocean as an extension of the land, with all the possibilities of identity, ownership, private use rights and management responsibilities that apply to land' (Smyth 1997, p. 1).

  Hence, this report has considered Aboriginal connections with the marine estate and associated values in the context of an integrated land and seascape.

- This project is conducted in the broader context of NSW Government policies to improve wellbeing and address social and economic disadvantage faced by many Aboriginal people.

- The information in this report has been collected and reviewed on the basis of the marine bioregions in NSW. This is consistent with the Commonwealth and NSW Government's approach to conserving marine biodiversity and regulating resource use in the marine environment. The approach is also useful for demonstrating cultural similarities and differences among the Aboriginal communities living along the NSW coastline, from the subtropical far north coast to the temperate far south coast.

Project Structure

Stage 1 – Methodology development

- Prepare a research methodology for meeting project objectives and present to MEMA for comment.

Stage 2 – Literature review and analysis

- Describe Aboriginal cultural heritage in NSW in accordance with its statutory protection under the *NSW National Parks and Wildlife Act 1974.*
- Conduct a wide-ranging literature review that examines a broad array of sources, from archaeological evidence, cultural mapping and oral history research, through to court cases regarding illegal fishing. The aim of the literature review is to provide an overview of Aboriginal people's relationships with the NSW marine estate. The overview is based on published papers in journals and books and also on unpublished reports commissioned by government agencies with responsibility for managing the NSW marine estate. The NSW Office of Environment and Heritage's Aboriginal Heritage Information System (AHIMS) has been extensively utilised, as well as data collected by the authors doing background research for a potential Cultural Resource Use Agreement for Batemans Marine Park.

Stage 3: Values and threats analysis and gap analysis

- Arising from a critical evaluation of the connections between Aboriginal people and the NSW marine estate identify and describe Aboriginal values/ benefits at local, marine bioregion and state-wide scales.

- Gaps in knowledge are identified and recommendations for additional research or data collection are provided.

- Identify current and potential threats to the values/benefits, drawing on and adding to threats suggested by MEMA agencies and from the results of the NSW Marine Estate Community Survey (Sweeney Research, 2014). Identification of threats is drawn largely from concerns raised by Aboriginal people during previous consultations relating to their interests in the marine estate at Commonwealth at State levels. Causes of the threats are identified where able to de determined from the literature.

- Conduct a preliminary assessment of the consequence of the threats occurring and the likelihood of the consequence.

Stage 4: Future Aboriginal consultation and engagement

- A list of recommended Aboriginal stakeholders to be consulted on the risk assessment is provided and suggestions for developing an effective consultation strategy are outlined for Aboriginal region and state-wide engagement.

Stage 5: Report production - draft for review and final
Stage 6: Attend workshops and do presentations

The relationship between project objectives and project stages and tasks is shown in Table 1.

Table 1: Relationship between project objectives and stages

	TASK	RELEVANT OBJECTIVE
STAGE 1		
	Prepare research methodology	1
STAGE 2		
	Describe Aboriginal cultural heritage	2
	Literature review	3
	Analysis of OEH databases/reports	3
	Written synthesis /overview of information, to provide cultural context to values/threats analysis	3
STAGE 3		
	Values/uses/benefits analysis	3
	Gap analysis	4
	Threats analysis	5
STAGE 4		
	Advice re Aboriginal consultation strategy	6 and 7
STAGE 5		
	Prepare report	8
	Submit draft report	8
	Final report	8
STAGE 6		
	Attend expert-led workshop	9
	Prepare and deliver presentation	10

1.5. Scope and limitations

- Although in Commonwealth waters, Wreck Bay is included in the project as it is part of the Jervis Bay embayment and the Wreck Bay Aboriginal community have strong cultural connections to the NSW marine estate.

- Lord Howe Island is excluded as there is no Aboriginal history identified with this place, being first settled by New Zealanders (Maori and pakeha) in 1833. *http://www.lordhoweisland.info/library/worldheritage.pdf*

- The authors have not undertaken direct consultation with Aboriginal people in relation to this project. Where appropriate, quotations by Aboriginal people are provided from the reviewed literature.

- The timeframe to comprehensively research all literature and write the report was limited to two months.

- It was not possible to review all 12,000 AHIMS site cards to determine contents of individual archaeological sites e.g. molluscan and fish species harvested. Examples are used as an effective alternative to illustrate traditional resource use.

- This report appears to emphasise Aboriginal resource use values, as this is a clear focus in the available literature. Furthermore, in a post Native Title era, coastal Aboriginal communities are becoming increasingly vocal in exerting what they consider to be their fundamental right to harvest marine resources.

CHAPTER 2

ABORIGINAL PEOPLE AND THEIR CONNECTIONS TO THE NSW MARINE ESTATE.

Aboriginal people gathering oysters on mangrove flats of a tidal creek in the Hastings River district, north coast.
Source: Campbell (1978:88)

2.1. Brief overview

As the acknowledged original custodians of Australia's land and waters, with cultural links that extend back thousands of years, Aboriginal people's connection with, and the values they hold for, the natural environment are somewhat different to the community at large. Adequate recognition by government agencies and the wider non-Aboriginal population of the critical importance of the natural (including marine) environment to Aboriginal people, and the nature of their connections with it, has been slow, especially in southern Australia where colonisation had its greatest impact on the Aboriginal population. It has been suggested that systems of customary marine tenure are fragile and disappear quickly under the impact of colonisation (Peterson & Rigsby, 1998).

Anthropologists have made reference to Aboriginal sea estates since the 1970s, primarily in relation to Northern Territory land rights legislation (Peterson & Rigsby, 1998). More recent literature has reflected concerns over the effects of management on rights and entitlements and in 1984 the Commonwealth Fisheries Division commissioned a report which began with a statement that continues to hold true today;

> *There can be no denial of the fact that Aborigines do have systems of sea tenure but these are currently not recognised as forms of title to the sea. Perhaps less fundamental but of more direct relevance to the survival of Aboriginal culture and lifestyle, at least in the short term, is their right to exploit marine resources for subsistence purposes, and their right to control access to territory which is of sacred significance to them. The entitlement of Aborigines to special commercial fishing rights is another issue to be resolved, particularly in the light of North American experience…… Rather commercial fishing rights, as opposed to concessionary treatment, are a natural consequence of recognition of traditional and unrelinquished ownership of the sea* (Lawson in Smyth, 2000:8).[1]

Negative circumstances frequently define contemporary Aboriginal connections with the marine environment. The 1993 Coastal Zone Inquiry noted harassment of Aboriginal fishers and their families by Fisheries Inspectors, especially on the south coast; frequent confiscation of catches, and the prosecution, fining and sometimes imprisonment of Aboriginal fishers, particularly those involved in collecting abalone (Smyth, 1993). Despite this, coastal Aboriginal people continue to assert their fundamental right to harvest the resources of the sea, and to not be subject to the same rules and regulations as non-Aboriginal people (Cane, 1998).

Passing of the *Native Title Act 1993 (Cth)* which contemplates that Aboriginal rights and interests in the sea may be recognised, together with successful sea claims in Canada and New Zealand, has escalated Aboriginal interest in the marine estate across Australia. It is important however, to maintain a separation between documentation for native title reasons, and research aimed at a broader and deeper understanding of Aboriginal connections with the marine environment (Peterson & Rigsby, 1998). This is particularly the case in NSW where a colonial history of dispossession has severed many traditional ties

[1] Belinda Lawson, *Aboriginal Fishing and Ownership of the Sea,* Fisheries Division, Dept of Primary Industries, Canberra, 1984) [not cited].

with land and sea, with partial and sometimes complete loss of knowledge of cultural traditions and creation stories. Without the capacity to demonstrate ongoing and unbroken ties, Native Title claimants in NSW may not meet critical criteria of continuous and unbroken associations with the NSW marine estate.

Formulation of the NSW Aboriginal Land Rights Act in 1983 was, in part, a response to a realisation that claims to land and resources in NSW may not be achieved through any kind of future legislation that relied on demonstration of unbroken connections with land and sea, such as Native Title;

> *Unlike Native Title, the Aboriginal Land Rights Act is not based on Aboriginal people having a connection to country – although they often do. This is crucial as historically our mob have been dislocated from their traditional homelands making it hard to prove continual connection to country* (NSW Aboriginal Land Council, 2014).

This Act aimed to compensate for two centuries of dispossession and recognised the enduring disadvantage found within Aboriginal communities. The mechanism was established through the NSW Aboriginal Land Council and a network of 122 Local Aboriginal Land Councils (LALCs), who could claim vacant Crown land in NSW. However, this Act applies only to Crown land above high water mark not needed for an essential public purpose (such as public access to a beach). Water bodies and the ocean are not claimable under this Act, but sand dunes and beaches above high water mark are, and have been successfully claimed by the Coffs Harbour LALC at Red Rock, about 30 kms north of Coffs Harbour.[2]

The Royal Commission into Aboriginal Deaths in Custody in the early 1990s, (Australian Government and Johnston, 1991), together with citizen movements for social justice, prompted governments to pay more attention to Aboriginal rights and interests in the marine environment. The Commonwealth Government's Commission of Inquiry into the management of Australia's coastal zone commissioned a report on Indigenous relationships with the marine environment (Smyth, 1993) and a National Indigenous Aquaculture Strategy was prepared in 2001 (Lee & Nel, 2001).

During the 2000s the National Oceans Office commissioned several reports into Indigenous interests in Commonwealth waters, including for the East (Barnett & Ceccarelli, 2007) and South-east marine planning regions (Smyth & Bahrdt Consultants, 2002; National Oceans Office, 2002) both of which incorporate the NSW marine estate.

These studies have highlighted the critical importance to Aboriginal people of continuation of resource use for subsistence purposes and for cultural identity. In recognition of this, the NSW *Marine Parks Act 1997* allowed cultural resource use under a permit with certain constraints. Taking of resources for non-commercial purposes in Sanctuary Zones may be permissible under these arrangements. Additionally Special Purpose Zones for Aboriginal use can be created under Marine Park Zoning Plans. For example, the Arrawarra Headland Special Purpose Zone in the Solitary Islands Marine Park recognises the significance of ancient stone fish traps and provides for traditional use and research.

[2] http://www.dailyexaminer.com.au/news/aboriginal-land-council-wins-claim-on-reserve/2156370/

An Aboriginal Engagement and Cultural Use of Fisheries Resources Policy was prepared by the now defunct Marine Parks Authority in 2010 (Marine Parks Authority, 2010). In accordance with this policy, draft cultural resource use agreements (CRUA) were commenced for some marine parks. The MEM Act also supports Aboriginal cultural uses of marine parks and aquatic reserves, and the Aboriginal Engagement and Cultural Use of Fisheries Resources Policy has since been adopted by the Department of Industry policy portfolio with no changes to the statement of intent for CRUAs.

Development of a NSW Indigenous Fisheries Strategy (IFS) began in 1998 in recognition of the important connection between Aboriginal culture and the fisheries resource. The IFS was released in 2002, with the implementation of a range of projects to protect and enhance the traditional cultural fishing activities of Aboriginal communities and to ensure Aboriginal involvement in the management of fisheries resources.

After a long period of consultation, amendments were made to the *Fisheries Management Act 1994 (NSW)* in 2009 in recognition of Aboriginal people's cultural fishing needs and traditions. One of those amendments included defining Aboriginal cultural fishing for the purposes of that Act;

> *"Aboriginal cultural fishing means fishing activities and practices carried out by Aboriginal persons for the purpose of satisfying their personal, domestic or communal needs, or for educational or ceremonial purposes or other traditional purposes, and which do not have a commercial purpose".*

The defining of cultural fishing marked a milestone in fisheries management in that it recognised a third category of fishing that was neither commercial nor recreational (Schnierer, 2011). However, although the terms *cultural fishing, cultural use* and *cultural resource use* are defined in law, their practical application in recognising and respecting the rights and interests of Aboriginal people, both Native Title and non-Native Title, is an ongoing process.

Another significant amendment passed in 2009, which at the time of writing has not commenced, is Section 21AA of the FM Act. Section 21AA recognises small scale domestic cultural fishing practices by providing special provisions to allow Aboriginal people to fish for cultural purposes despite sections 17 or 18 of the FM Act (recreational bag and possession limits) and provides the head of power for cultural fishing regulation to be developed. Section 21AA will commence at the same time as the cultural fishing regulation, which is currently being developed by DPI Fisheries in consultation with the NSW Aboriginal Fishing Advisory Council. [3]

Interim access arrangements for cultural fishing were put in place in 2010 pending development of a cultural fishing regulation (see Appendix 3.) The interim access arrangements include extensions to existing bag and possession limits and other arrangements for the purpose of providing for Aboriginal cultural needs, where elders, the incapacitated or other community members are unable to or it is not appropriate for them to engage in the cultural activity.

[3] Section 21AA does not authorise an Aboriginal person to do anything that is inconsistent with native title rights and interests under an approved determination of native title (within the meaning of the Native Title Act (Cth) 1993 or with the terms of an Indigenous Land Use Agreement (within the meaning of this Act)

2.2. The Aboriginal population of NSW

The broad term Aboriginal people use to distinguish themselves from non-Aboriginal people across NSW is *Koori*. Other terms meaning person/man is also commonly used, for instance *Eora* in the Sydney region and *Yuin/Coast Murring* on the south coast. These are not land holding groups but more general terms of reference and identity.

Australian Bureau of Statistics (ABS) results of the 2011 Census of Population and Housing show that the resident population of Aboriginal and Torres Strait Islander peoples in NSW is 172,625, up from 138,507 in 2006 – an increase of 24.6 % and comprising the largest count for any State or Territory. This represents 31.5 % of the total Aboriginal and Torres Strait Islander population of 548,370 and 2.27% of the total NSW population.[4]

The largest number of Indigenous people (66,068) live in the major urban areas of Sydney, Newcastle and Wollongong – with the Sydney local government areas (LGAs) of Blacktown (7,850), Penrith (4,407), Campbelltown (4,238), Wyong (4,096), Gosford (2,916), Sydney City (2,681) and Liverpool (2,490) in particular, home to large communities. In addition, there are significant settlements in the inner and outer regional areas, located in LGAs such as Dubbo, Tamworth, Shoalhaven, Moree Plains, Kempsey, Wagga Wagga, Tweed, Coffs Harbour and Clarence Valley.

With regard to broad population settlement patterns, only 5% of the NSW Aboriginal and Torres Strait Islander population live in remote and very remote areas in contrast to the national Indigenous figure of 25%.

Aboriginal people live in low numbers in most small coastal towns and villages, with definite concentrations in some locations. A housing needs survey in 2006 was able to identify a number of distinct Aboriginal communities, including along the coastline (Figure 2). The concentrations are the result of several factors. Some people are still living on or near their traditional country, where they may have spent some or all of their life growing up on an Aboriginal reserve or in a fringe camp around a rural centre. For example, in the early 20th Century near the regional centre of Nowra, Aboriginal people lived on Aboriginal reserves at Roseby Park and Wreck Bay, in fringe camps around the town, in the Bomaderry Children's Home, as well as in suburban residences (mostly rented public housing). Others were removed from their country and placed in reserves or children's homes as part of the Stolen Generation. Others moved regularly for employment. On the NSW south and central coast, employment in the timber industry (Feary, 2007), as seasonal pickers (White, 2010) or in major construction projects such as roads or dams resulted in considerable mobility which usually involved entire extended families (Bell, 1955). Figure 2 indicates that the largest Aboriginal communities on the coast are associated with former Aboriginal reserves such as Cabbage Tree on the north coast and Wallaga Lake and Wreck Bay on the south coast.

Although the Aboriginal population is highly integrated and urbanised, many people still identify strongly with traditional social structures, either with larger groups such as Yuin on the south coast or with smaller

[4] http://www.abs.gov.au/websitedbs/censushome.nsf/home/nsw-132?opendocument&navpos=620

clan groups. Political and legal processes formulated on demonstrating tradition, such as Native Title claims, joint management of protected areas and community based cultural revival movements, are seeing more and more Aboriginal people identify with their traditional cultural boundaries.

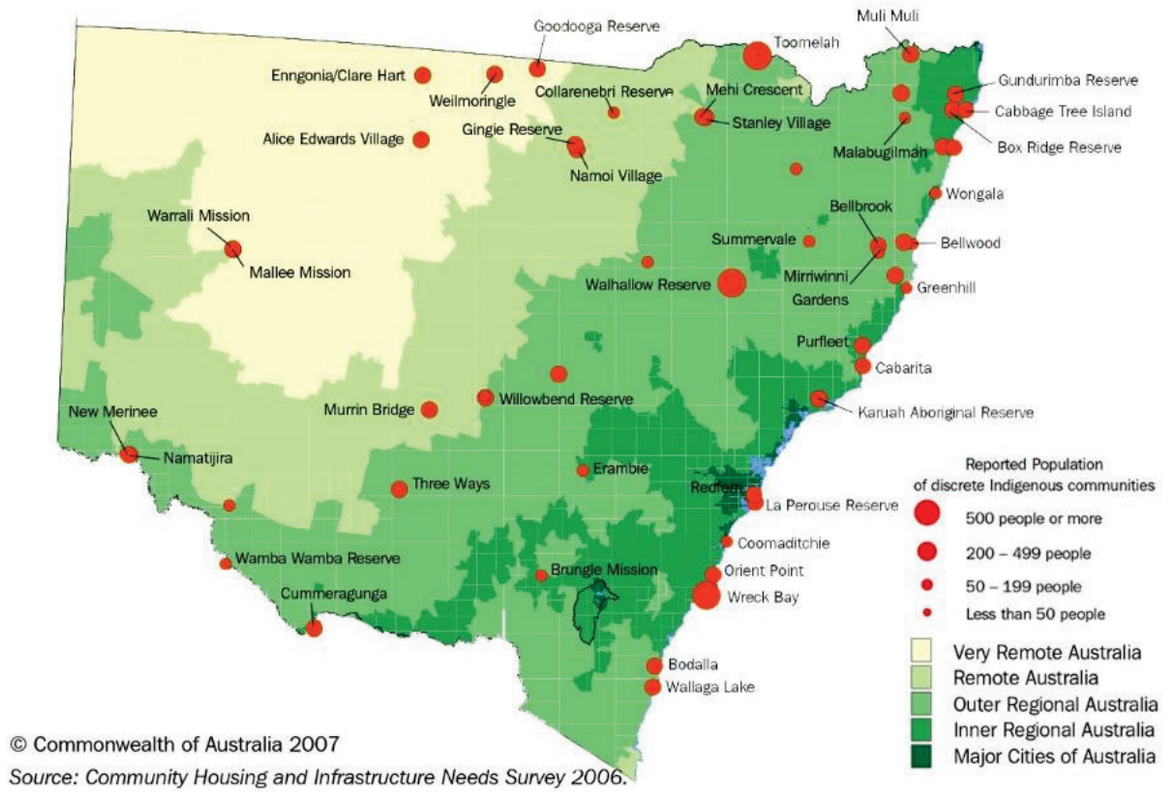

Figure 2: Map showing the location of major Aboriginal communities on NSW coast

Traditionally, large tribal groups existed along the NSW coastal region, each being associated with defined stretches of land and sea country. There are many different and conflicting versions of traditional boundaries in the literature, relying as they did on frequently flawed communications between non-Aboriginal and Aboriginal people during the early years of colonisation. Tribal maps drawn by anthropologist Norman Tindale from fieldwork conducted since the 1920s are commonly used as a reference for understanding traditional Aboriginal social organisation (Tindale, 1974). From north to south, he identified the following tribal groups;

- Arakwal [includes Byron Bay],
- Bundjalung [includes Ballina and Evans Head],
- Jiegera /Yaegl, [includes Clarence River /Yamba],
- Gumbaingirr [includes Coffs Harbour],
- Dainggatti [includes Crescent Head / Port Macquarie],
- Biripi [Manning River], the Worimi [includes Port Stephens],
- Awabakal [Lake Macquarie],
- Darkinjang [The Entrance],
- Daruk/Darug [includes Sydney, Port Jackson],

- Tharawal [includes Port Hacking], the Wadi Wadi/Wodi Wodi [Illawarra],
- Wandandian [Nowra, Jervis Bay, Ulladulla],
- Walbanga [includes Batemans Bay, Moruya],
- Djiringanj [Narooma, Bega],
- Thaua [Merrimbula, Eden]
- Bidwell [Nadgee, Cape Howe]

Some of these tribal groups are named after the language which the group identifies with, for instance, the Daruk people identify with the Daruk language, the Tharawal people identify with the Tharawal language, whilst in contrast the Walbanga people speak or identify with the Thoorga language [Attenbrow 2010; Wesson, 2000]. Figure 3 shows the boundaries of tribal groups as determined by Norman Tindale. [5]

Within each of these large tribal groups are smaller localised named groups [also known as clans or local descent groups], linking discrete groups of people to specific spiritual ancestors, totems and an area of land and water. Many of these group names are reflected in coastal place names today, for instance, Bullina [=Ballina], Narrawalle [= Narrawallee], Terosse [= Tuross], and Kialoha [= Kiola]. A few examples of these named smaller coastal groupings include:

- The Bundjalung tribe comprises the Nganduwal, Tul-Gi-Gin, Minyanbal, Wiyabal, Moorung-Moobar, Bullina and Galibal groups [Steele 1984];
- The Worimi tribe comprises the Garuagal, Maiangal, Gamipingal, Garrawerrigal, Buraigal, Warringal, Birroongal, Birrimbai, Yeerungal and Wallamba groups [Enright and Sokoloff 1974];
- The Daruk tribe comprise the Gayamaygal, Gadigal, Birrabirragal, Borogegal, Darramurragal, Gamaragal and Garigal, amongst others [Attenbrow 2010];
- The Walbanja tribe comprises the Narrawallee, Didthel, Burreel, Murramurrang, Currowan, Kialoha, Durare, Broulee, Mullenderee, Kiora, Burgali, Terosse and Wagunga named groups [Wesson 2000].

[5] Orthography from Tindale 1940; Yuin also given as name encompassing Tharawal, Wadiwadi, Wandandian, Walbanga, Djiringanj, Thaua and the Bidwell.

Figure 3: Map of traditional tribal boundaries along the NSW coast [excerpt from Tindale (1974)]

2.3. The meaning of cultural heritage in NSW

Aboriginal cultural heritage is not defined in law in NSW, but is described by the NSW Office of Environment and Heritage (OEH) as;

> *Aboriginal cultural heritage consists of places and items that are of significance to Aboriginal people because of their traditions, observances, lore, customs, beliefs and*

history. It provides evidence of the lives and existence of Aboriginal people before European settlement through to the present. Aboriginal cultural heritage is dynamic and may comprise physical (tangible) or non-physical (intangible) elements. It includes things made and used in traditional societies, such as stone tools, art sites and ceremonial or burial grounds. It also includes more contemporary and/or historical elements such as old mission buildings, massacre sites and cemeteries. Tangible heritage is situated in a broader cultural landscape and needs to be considered in that context and in a holistic manner.

Aboriginal cultural heritage also relates to the connection and sense of belonging that people have with the landscape and each other. It recognises that Aboriginal people understand cultural heritage and cultural practices as being part of both the past and the present and that cultural heritage is kept alive and strong by being part of everyday life.

Cultural heritage is not confined to sites; it also includes peoples' memories, storylines, ceremonies, language and 'ways of doing things' that continue to enrich local knowledge about the cultural landscape. It involves teaching and educating younger generations. It is also about learning and looking after cultural traditions and places, and passing on knowledge. It is enduring but also changing. It is ancient but also new.

Aboriginal cultural knowledge provides crucial links between the past and present and therefore represents an essential part of the identities of Aboriginal people and all Australians (OEH, 2015).[6]

The *National Parks and Wildlife Act 1974* and the *National Parks and Wildlife Regulation 2010* are the primary legislation for protection of Aboriginal heritage in NSW.[7] The NSW Heritage Act may also apply in relation to post-contact Aboriginal heritage.

Commonwealth law can also apply in NSW under some circumstances. The Commonwealth Government is responsible for protecting Indigenous heritage places that are nationally or internationally significant, or that are situated on land that is owned or managed by the Commonwealth. This protection operates under the *Environment Protection and Biodiversity Conservation Act 1999.* The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (ATSIHP Act) can protect areas and objects that are of particular significance to Aboriginal people. The ATSIHP Act allows the Environment Minister, on the application of an Aboriginal person or group of persons, to make a declaration to protect an area, object or class of objects from a threat of injury or desecration. This Act is generally only used when state or territory legislation has failed to protect significant places and objects.

Objects of the NPW Act in regard to Aboriginal heritage state;

[6] http://www.environment.nsw.gov.au/licences/achregulation.htm

[7] OEH has been conducting a process of legislative reform for Aboriginal cultural heritage since 2013. See http://www.environment.nsw.gov.au/achreform/index.htm

> *... the conservation of objects, places or features (including biological diversity) of cultural value within the landscape, including, but not limited to: places, objects and features of significance to Aboriginal people... (NPW Act 2A(1)(b)(i)).*

Despite this objective, and the broad and inclusive meaning of cultural heritage given above, the Act is actually very narrow in what it legally protects, as described below;

Aboriginal object - this refers only to physical [tangible] evidence;

> *any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains (NPW Act)*

Aboriginal place - this can be a natural landscape feature or location with significant spiritual, sacred or community associations i.e. intangible. Aboriginal Places are declared under Section 84 of the NPW Act for places that, in the opinion of the Minister, is or was of special significance to Aboriginal culture. However, it must be declared before it can be legally protected. This mechanism is very important for giving legal protection to phenomena that are not 'objects' as defined in the Act. For example, the Drum and Drumsticks is a geologically spectacular cliff outlier within Jervis Bay Marine Park which is spiritually significant to local Aboriginal communities, as it forms part of the broader sacred landscape of Beecroft Peninsula (Figure 4). In previous decades it was damaged by Commonwealth Department of Defence activities (bombing), causing great distress to the local Aboriginal community. This could have potentially been avoided if the feature had been listed as an Aboriginal Place under the NPW Act.

Figure 4: Drum and Drumsticks, Jervis Bay Marine Park[8]

Aboriginal Places can be an important mechanism for protecting places of cultural value in and adjacent to the NSW marine estate, such as places where certain resources were collected or where people gathered. Such an example is Dark Point Aboriginal Place (Figure 5). This rocky headland in Myall Lakes National Park was gazetted as an Aboriginal Place in 2002. It has a rich cultural history and has been a gathering place for the Worimi people for over 4000 years who would gather here in clan groups (*nuras*) to feast on the abundant seafood. Traditional burial sites, as well as middens, have been found in this area. [9]

There are currently about 30 registered Aboriginal Places along the coastline. Examples include sacred places such as Merrimans Island in Wallaga Lake, Birubi Point near Port Stephens, which is important as a ceremonial and burial site and has extensive archaeological deposits, and Sandon Point near Wollongong which protects the material traces of history and enables local Aboriginal people to continue to connect to traditional culture and maintain traditional knowledge. It is also the site of a long period of political activism in mid-2000.

The current system is not really designed to give legal protection to the heritage values of culturally iconic species such as abalone or pipis, although the legislative reform process may lead to their recognition.

[8] Source: http://travel.stills360.com/experience/snorkelling-at-jervis-bay/

[9] http://www.nationalparks.nsw.gov.au/things-to-do/aboriginal-sites/dark-point-aboriginal-place

Figure 5: Dark Point Aboriginal Place

OEH's broader understanding of cultural heritage, even if not enshrined in law, has been instrumental in encouraging and funding 'cultural mapping' projects that have extended to and included the NSW marine estate. Studies into Aboriginal connections with the natural environment have involved working with local Aboriginal communities, using interviews and aerial photographs, to map places, landscapes, localities, and their interconnections, for example cultural mapping of the country of the Gumbaingirr nation of the north coast (English, 2002) and Aboriginal country around Taree and Forster on the lower north coast (Byrne & Nugent, 2004). Linking knowledge, interests and values to place inscribes cultural identity on the landscape and is a very useful tool for identifying, recognising and ultimately protecting cultural heritage (English, 2002). For example, places where pipis were and are collected, and knowledge of the best times and places to catch fish, are part of cultural heritage in its broadest meaning.

Cultural mapping produces a cultural landscape, which is a unifying concept for natural and cultural heritage and facilitates protection of cultural values at a landscape scale rather than on a site-by-site basis (Brown, 2010). It is also a much more accurate reflection of Aboriginal worldviews of nature and culture as a single entity, as opposed to the non-Aboriginal tendency to imagine nature and culture as separate entities.

2.4. Previous studies of Aboriginal interests in the marine estate

A number of studies have been carried out with the specific aim of characterising Indigenous people's interests in and relationship with the marine environment, commencing with the Commonwealth's Coastal Zone Inquiry in 1993. Some have focused on economic values or on resource use, while others have taken a broader perspective (see Appendix 4 for a table of relevant studies).

Much of the impetus for such studies has emerged from issues around social justice and the rights of Indigenous people over the marine estate and its resources, including Native Title rights and interests, rights associated with customary use and ownership, achieving self-determination, and overcoming social and economic disadvantage. As was the case with Australia's forests, the marine environment has become a platform on which Indigenous people have endeavoured to assert their rights and interests as original owners and also as disadvantaged participants in the modern economy, including in NSW.

It is useful to compare the recommendations and outcomes from several key studies conducted at very different times. For example the 1993 Coastal Zone Inquiry final report contained ten recommendations relating to four main areas;

1. Recognition of Indigenous customary rights to use and manage traditional estates in the coastal zone.
2. Participation in fisheries management;
3. Economic development and employment opportunities
4. Improving relationships (Smyth, 1993).

A later review of studies, legislation and policies relevant to Indigenous people's interests in fisheries and aquaculture, as a prelude to preparation of an Aboriginal and Torres Strait Islander Fisheries Strategy revealed limited progress in any of these areas (Sutherland, 1996).

In 1998/1999 a series of meetings was held with Aboriginal communities along the NSW coast to discuss their concerns in regard to customary fishing. These meetings were a step in the development of the NSW Indigenous Fisheries Strategy. Major issues raised by the respective communities included;

- Recognition and accommodation of Aboriginal fishing rights and customary fishing practices
- Greater employment by DPI Fisheries.
- Recognition of traditional knowledge and inclusion in management advisory committees.
- Opportunities to participate in commercial fishing and aquaculture.
- Greater access to pipi, abalone, beachworms and inshore species such as bream, flathead and mullet.
- Overfishing, especially of species normally accessed by Indigenous peoples such as taken off rock shelves and offshore species such as bream, mullet and flathead.
- Increase the availability of resources including through the use of restocking.
- Adjustments to the fisheries legislation to allow traditional family and community oriented fishing, as current bag limits make such practices illegal.
- Priority to be given to Indigenous fishing over other forms of fishing.
- Impact of discarded by-catch.

- Allow use of modern gear (Campbell, 2006).

Similar issues were raised several years later during documentation of Aboriginal interests in Commonwealth waters in the East (Barnett & Ceccarelli, 2007) and South-east Marine Planning Regions (Smyth & Bahrdt Consultants, 2002) both of which included NSW.

Schnierer and Faulkner 's 2002 study of Aboriginal fisheries in northern NSW, described resource use of marine and freshwater environments and identified a number of issues from interviews with Aboriginal fishers (Schnierer & Faulkner, 2002). They included;

- recognition of fishing rights
- restrictions and access to fishing spots,
- imposition of recreational fishing regulations,
- the role of fishing and collecting in culture and identity,
- habitat degradation and,
- reduced fish stocks.

The most recent study into Aboriginal interests in the marine environment was commissioned by NSW DPI on behalf of MEMA, in the context of documenting ecological, social and economic values of the NSW marine estate to the wider NSW community (Sweeney Research, 2014). The research provided a valuable summary of Aboriginal values, concerns and aspirations, and identified benefits and threats. The priorities identified by Aboriginal people indicated a more sophisticated and deeper understanding of issues than previously, but the concerns raised are essentially the same as those raised during previous studies *viz.*;

- Begin an ongoing and inclusive dialogue with Aboriginal communities.
- Return access to Aboriginal communities.
- Negotiate cultural access agreements.
- Allow Aboriginal communities to self-regulate their resource usage, as there is considered to be far greater respect for cultural ways than there is for 'white-fella' laws.
- Increase employment of Aboriginal people in the NSW marine estate.
- It is believed that if relations are to improve, there should be conduit roles / liaison roles put in place to facilitate communication and shared outcomes.
- Further embrace Aboriginal knowledge about resource management techniques.
- Engage Aboriginal people in the development of enterprises.
- Facilitate economic self-sufficiency through the development of accessible commercial opportunities.

Other publications used in preparing this report related to traditional and historical associations with the marine estate outside of political or management contexts. They included compilations of ethnohistoric and ethnographic records describing direct observations of Aboriginal society during the early decades of colonisation. Many observations are of Aboriginal use of the marine environment, and are invaluable for giving insight into traditional society and culture and, adaptations made in the face of colonisation. Examples include Michael Organ's comprehensive review of the ethnohistorical records of Aboriginal society from the Illawarra and south coast (Organ, 1990). Similar compilations have been done for northern NSW, with detailed descriptions of use of fish traps, diet and food gathering methods in the Richmond and Tweed River valleys, and ceremonial activity and seasonal movements around New England (McBryde,

1978). Attenbrow (2010) has written on the Aboriginal history of the Sydney region, drawing on the archaeology and the rich ethnohistoric records from the time of first settlement, with numerous accounts of fishing and harvesting techniques and associated social behaviours.

Similar studies have been done on a smaller scale, such as Brian Egloff's book on the Aboriginal community at Wreck Bay, which focuses on the nexus between traditional fishing and commercial fishing on the south coast in the mid-20th Century (Egloff, 1981). Batemans Marine Park was the focus of recent academic research into Aboriginal uses and values associated with the marine park, which identified enduring cultural traditions and a concern with current management regimes that did not give due recognition to these traditions (Waddell, 2010).

When, in the early 2000s, OEH took a broader perspective on Aboriginal cultural heritage and recognised intangible heritage and cultural landscapes, it commissioned a number of community based oral histories aimed at documenting connection to place through Aboriginal women's voices. Many of these contain references to the role of the marine environment as a source of food and identity. A list of oral history publications can be found on the OEH website.[10] At the same time, OEH partnered with several coastal shire councils in developing local government area Aboriginal heritage studies (Coffs Harbour Shire Council, Shoalhaven City Council, 2005; Bega Valley Shire Council, 2012; Eurobodalla Shire Council, 2008). Although not specifically targeting the marine environment, they also contain numerous references to Aboriginal connections with the marine environment. Valuable information on Aboriginal connections with the north coast comes from cultural mapping studies such as Tony English's work on mapping Gumbaingirr wild resource use places (English, 2002) and mapping post-contact heritage with the Purfleet-Taree and Forster LALC s (Byrne & Nugent, 2004). Hundreds of cultural places have been mapped by these studies (by locating on a map and documenting the associated stories), which collectively give a detailed picture of Aboriginal connections for specific areas. A study of Aboriginal cultural connections with a specific resource, abalone, conducted primarily by local Aboriginal knowledge-holders gives a rare insight into the considerable social and subsistence value of this species (Cruse, et al., 2005).

2.5. Understanding connections

For indigenous peoples all over the world, the importance of an activity or a place often stems from prolonged and sustained association, framed by spiritual beliefs, cultural norms and laws, and characterised by flexibility for accommodating new situations, such as climate change or subsumption by another culture. Thus, an understanding of why Aboriginal people value the NSW marine estate and how they benefit from it needs appreciation of both the spatial and the temporal dimensions of these connections and associations.

These connections are demonstrated by a rich body of evidence. Physical evidence, such as archaeological sites, is testimony to thousands of years of resource management using specialised equipment and technology and based on an intimate knowledge of the natural environment. Historical and ethnographic records – the observation of the early white explorers, settlers, anthropologists and government officials -

[10] http://www.environment.nsw.gov.au/chpublications/

portray a continuation of traditions associated the marine environment after British settlement - it being one place where British systems of land tenure did not usurp traditional management systems or remove Aboriginal people (Bennett, 2007).

At the same time, Aboriginal people adopted many white traditions and incorporated them into their own culture, such as the use of steel fishhooks. Aboriginal fishers provided food to the growing colony around Sydney and were an important component of the professional fishing fraternity on the south coast in the early–mid 1900s (Bell, 1955; Bennett, 2007). Much of the archaeological and historical record is corroborated by oral traditions of Aboriginal people, passed down through the generations.

Connections, although framed by the past are also about the present and the future. Current generations of Aboriginal people connect with the NSW marine estate in ways shaped by tradition and post-contact history, but also in a very contemporary manner. Making a living in the market economy, struggling for sea rights, and involvement with relevant government agencies are some of the ways contemporary Aboriginal society connects with the NSW marine estate.

Previous studies have shown that Aboriginal connections with the NSW marine estate have a strong temporal dimension, showing changes and adaptations over time. A chronological framework is therefore appropriate for presenting Aboriginal history and culture in regard to the NSW marine estate, while recognising that separating the past from the present creates an artificial dichotomy not always reflective of Aboriginal worldviews.

Aboriginal people's current connections with the marine environment are deeply embedded in the past. Ancient cultural traditions and knowledge underpin contemporary values and aspirations to the extent that they cannot be considered in isolation from each other. Thus values/benefits to contemporary Aboriginal people depend on the past as well as the present and extend into the future.

Connections are also framed by the struggles of Aboriginal people since the early 20th Century to have their traditional rights and interests over land, sea and its resources recognised in law. These rights and interests pertain to prior ownership, now reflected in Native Title and State legislation.

2.6. Traditional life

Aboriginal people have lived along the present NSW coastline from the time it was formed, around 6,000 years ago when rising sea levels stabilised at approximately their current level (Mulvaney & Kamminga, 1999). The subsistence economy and social fabric of coastal Aboriginal people was centred on marine resources, although resources from the hinterland were also important on a seasonal basis (Attenbrow, 1976; Poiner, 1976). The marine environment, especially estuaries and coastal lakes, provided essential food and materials for implements, utensils and decoration, and shaped peoples' societal roles, including a gender based division of labour. The seascape was also part of the spiritual world of coastal Aboriginal people, through totemic relationships, creation stories and inherited cultural obligations (Barnett & Ceccarelli, 2007).

2.6.1. The physical evidence

Many thousands of archaeological sites on lands in and adjacent to the NSW marine estate and on offshore islands are testament to a traditional Aboriginal economy that relied heavily on the resources of the marine environment. Archaeological sites are a direct and visible connection with the ancestors of today's Aboriginal population as well as an important repository of irreplaceable information on Aboriginal life prior to white settlement.

Archaeological sites pre-dating the last rise of sea level also exist, at Bass Point (23,000 years BP) and Burrill Lake (17,000 years BP), but their numbers are few and the evidence is sparse (Bowdler, 1970; Lampert, 1971). It is possible that other Pleistocene-age sites have been submerged by rising seas, but it is more likely that Aboriginal occupation of the NSW coastline was prompted by the final stabilisation of sea level that created wetlands, coastal lakes and lagoons. Their bountiful resources may have led to higher population densities which resulted in more sites (Hughes & Lampert, 1982). An increased number of sites post 3,000 years BP has been attributed to development of advanced stone tool technologies and a mixed economy with more specialisation, and movement away from the coast during winter (Nicholson & Cane, 1994). On the north coast, it has been suggested that construction and management of fish traps enabled acquisition of sufficient food to support high populations living a semi-sedentary lifestyle (Coleman, 1982) Extensive mounded middens of mud oyster along the banks of Pambula River on the far south coast are also indicative of prolonged periods of occupation (Sullivan, 1984).

Stratified middens occur at major river estuaries on the north coast showing extensive exploitation of estuarine molluscs such as *bimbulas,* oysters and mud whelks (McBryde, 1982). [11] Middens located in hind dunes along oceanic beaches and on rocky headlands often contain species from both sandy beach habitats, such as pipis (*Donax deltoides*) and large gastropods that inhabit the rocky shore platforms. Many sites are located close to more than one ecosystem to take advantage of a range of resources, while other sites exhibit specialised exploitation of a single species. Sites on islands may also reflect specialised exploitation of resources e.g. seabirds and their eggs on Montague Island, on the far south coast (Sullivan, 1975). Montague Island is also of great cultural significance to local Aboriginal communities, containing sacred sites and linked by a Dreaming story to Gulaga Mountain on the adjacent mainland (Rose, 1996).

Feminist theories of marine resource exploitation have attempted to explain a significant increase in the numbers of edible mussel (*Mytilus plannulatus*) in shell middens, from between 300 and 900 years ago between Sydney and Eden. Bowdler (1976) and Sullivan (1984) have suggested that the increase coincides with the appearance of shell fishhooks in the archaeological record. They argue that introduction of hook and line fishing which was done by women (while men used spears) left little time for shellfish collection, also a women's activity, hence an increased harvesting of the gregarious upper-littoral mussel species, easily and quickly gathered on the way home from fishing. These replaced the solitary and harder to obtain gastropod and bivalve species of the lower littoral.

Many sites contain bones of seals and whales, hinting at seasonal and opportunistic exploitation of marine mammals when stranded. The bones of seabirds such as shearwaters and black swans are often present as

[11] *Bimbula* is a south coast Aboriginal word for the Sydney Cockle (*Anadara trapezia*) – see Figure 9.

well as those of a suite of forest and woodland fauna such as possums, kangaroos and wallabies. The latter demonstrate that although the marine estate was very significant, it was not the only source of food.

Radiocarbon dates from hundreds of excavated sites on the present coastline indicate that the vast majority are less than 6,000 years old and most are younger than 3,000 years old. Many were occupied and used until and/or soon after white settlement. While most sites are not within the NSW marine estate *per se*, many reflect Aboriginal utilisation of the marine environment.

Figure 6 shows the NSW coastline with 12,818 recorded sites on AHIMS, in and adjacent to the NSW marine estate. [12] Some, but not all sites recorded in the Jervis Bay and Commonwealth Territories at Jervis Bay are included on the AHIMS database. [13] Analysis by marine bioregion shows that the greatest number of recorded sites is in the Hawkesbury Shelf Marine Bioregion, equal to the combined total of sites in all other marine bioregions (see Table 2). While this may reflect higher densities of pre-contact Aboriginal occupation around Sydney harbour, Port Jackson and the Parramatta River, when compared to other marine bioregions, it could equally be a function of relatively more archaeological surveys. Most archaeological sites are found and recorded during heritage assessments for proposed development such as subdivisions, roads, etc. of which there are more in the Hawkesbury Shelf marine bioregion than anywhere else. By contrast, Batemans Shelf marine bioregion has the second highest number of recorded sites, even though there is relatively less development. It could potentially be a reasonably accurate reflection of pre-contact population levels. Twofold Shelf marine bioregion has the smallest number of sites, due in part to less coastline, and lower levels of development, as most of the coastline here is in national park.

Table 2: Recorded Aboriginal sites per marine bioregion within or adjacent to the NSW marine estate. Source: AHIMS (March 2015).

Marine bioregion	*Recorded sites in and within 500 metres of NSW marine estate*
Tweed-Morton	1080
Manning Shelf	1884
Hawkesbury Shelf	6565
Batemans Shelf	2889
Twofold Shelf	460

[12] Information on archaeological sites is from the NSW Office of Environment and Heritage's Aboriginal Heritage Information System database (AHIMS), obtained under a licence dated 31/8/2014. The search is for all sites within, and 500 metres inland, of the NSW marine estate.

[13] In the past these sites were entered into AHIMS, but as it is technically not part on NSW, it is no longer automatic.

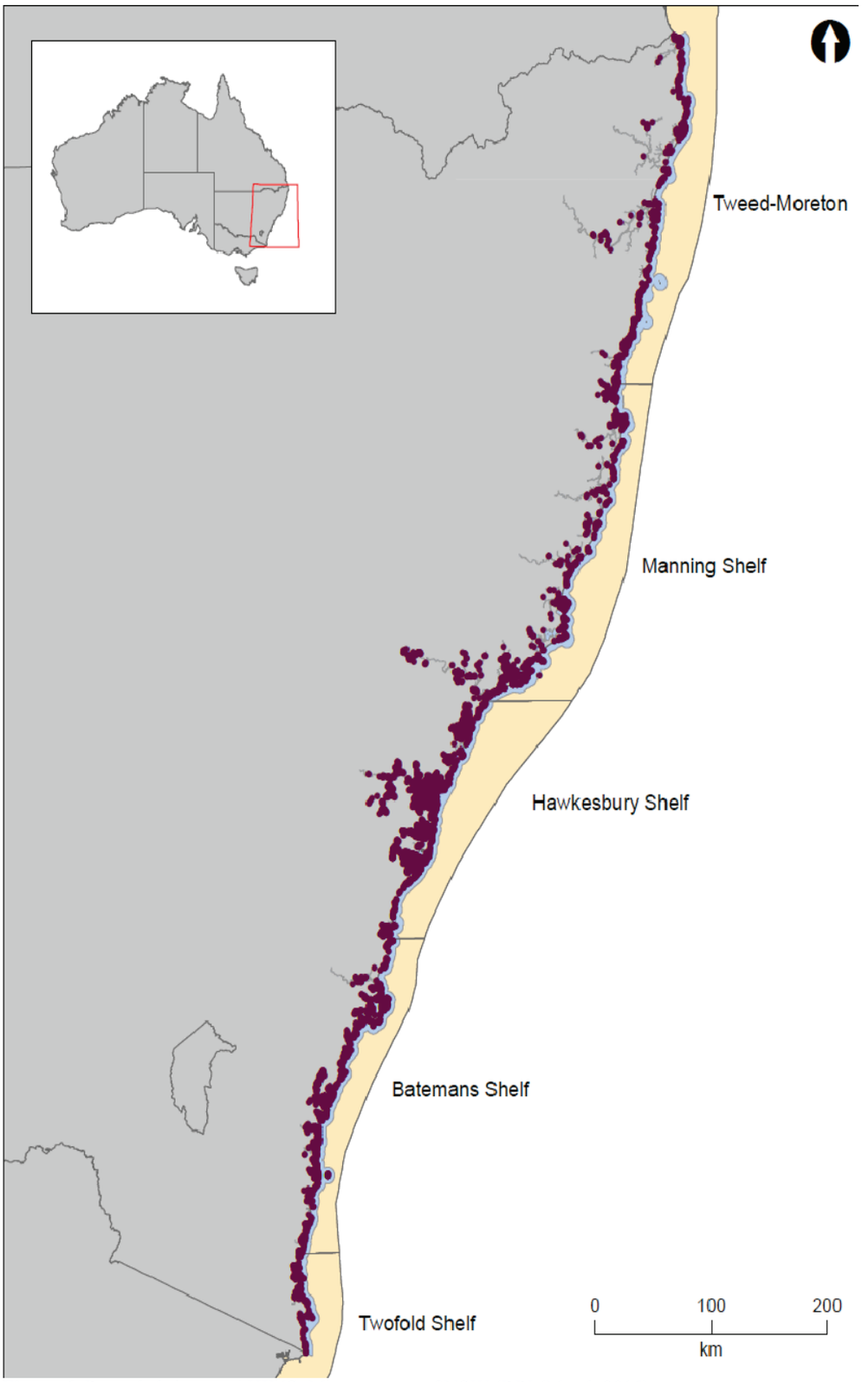

Figure 6: Recorded sites on AHIMS. Map courtesy of NSW (DPI (March 2015).

AHIMS identifies sites as being 'open' or 'closed'. Closed sites are rockshelters which contain cultural deposits on their floors and/or art on the walls. Many rockshelters with shell deposits have been recorded around Sydney's harbours and estuaries (Attenbrow, 2010). All other sites are 'open' and are recorded on

AHIMS according to whether they contain one or more 20 recognised 'features' (a definition of each feature is at Appendix 5).

Some sites are unequivocally associated with the marine environment; others have an inferred or indirect association, while others may have no direct connection at all. Table 3 is an assessment of the relevance of the feature to Aboriginal connections with the marine estate, as well as the likelihood of it being within the NSW marine estate.

Table 3: Relevance of AHIMS features to the NSW marine estate.

DESCRIPTION	RELEVANCE TO THE NSW MARINE ESTATE	LIKELIHOOD OF BEING IN THE NSW MARINE ESTATE (AS DEFINED)
Fish trap	Very - direct evidence for resource use	Very high
Shell [middens]	Very - direct evidence for resource use	Very high (but above high tide mark)
Aboriginal resource and gathering	Very - if associated with harvesting resources from the marine estate. Frequently identified cultural mapping of historic use and usually associated with historic camping places.	Likely to be adjacent to marine estate
Art	Very – if depicting the marine environment	Likely to be close to the marine estate
Artefacts	Very - if clearly associated with procurement of resources from the marine environment, such as fish hooks or spears, or with making the tools used for procurement such as fishhook files.	Likely to be in archaeological sites close to the marine estate, including in shell middens
Burial	Very – if located in a midden	Likely to be adjacent
Habitation structure	Very - if constructed and used by coastal peoples	Likely to be adjacent
Modified tree	Very - if scars are due to removal of bark to make a canoe or baskets for collecting shellfish, etc.	Unlikely, except for paperbark trees or mangroves or other species growing in brackish water or wet areas
Non-human bone and organic material	Very - if bones of fauna are from the marine environment e.g. whale, seal, fish or organic material is from the marine estate	Unlikely
Ceremonial ring	Possibly – if ceremony is associated with the marine estate, for example a whale increase ceremony	Likely to be adjacent if ceremony is associated with the marine estate
Conflict	Possibly – depends on the location and reason for conflict/massacre	Likely to be adjacent. Massacre site associated with sea cave at Corindi on north coast (English 2002)
Earth mound	Possibly – if it contains shells or bones of marine fauna. Feature is rare in coastal NSW	Likely to be adjacent
Aboriginal ceremony and dreaming	Possibly – depending on what the dreaming story and/or ceremony is about.	Likely - if dreaming story involves travel in ,under or on water; otherwise likely to be adjacent e.g. Arrawarra Headland (rain increase site) and Corindi rock platform (whale and dolphin singing site) on north coast.
Grinding grooves	Low	Low, usually associated with freshwater sources

Hearth	Low	Low
Ochre Quarry	Low	Could be adjacent, e.g. Congo ochre quarry, south coast (Feary, 2010), Quarry near mouth of Red Rock River, north coast (English, 2002)
Potential archaeological deposits (PADs)	Cannot be determined until excavated	Low
Stone arrangement	Possibly – if the location for ceremonies associated with the marine estate , cf. Aboriginal ceremony /dreaming	Low
Stone quarry	Low	Low
Waterhole	Low	Low

Table 4 is a breakdown of the frequency of features in the different marine bioregions, bearing in mind that AHIMS contains only sites for which a site card has been submitted and entered onto the database. Underrepresented sites in the database include resource and gathering sites; these are rarely entered onto AHIMS as they often relate to historical, rather than pre-contact use. There are also many duplicated recordings of the same site and the locations of many sites are inaccurately recorded. Each site may also contain more than one feature, for example, a site may contain a burial, a midden and an artefact scatter. The features are not all mutually exclusive and site may be recorded differently by different people, for example, a midden may be recorded as 'shell' or as a 'mound'. Despite the shortcomings of AHIMS it contains valuable data for demonstrating spatial patterning in relation to site type and physiography. For example, the high numbers of engraving ites and grinding grooves in the Hawkesbury Shelf marine bioregion reflects the extensive exposures of sandstone around what is now Sydney Harbour.

Table 4: Frequency of AHIMS features according to marine bioregions (the most relevant are highlighted).

Description	*Batemans*	*Twofold*	*Hawkesbury*	*Manning*	*Tweed-Morton*
Aboriginal ceremony and dreaming	12	2	31	31	43
Aboriginal resource and gathering	2	0	49	38	13
Art	20	3	1037	8	4
Artefacts	1736	238	2520	920	471
Burials	44	12	70	47	24
ceremonial	10	1	2	18	17
conflict	1	0	0	5	2
Earth mound	0	0	9	4	4
Fish trap	3	1	4	4	4
Grinding grooves	17	2	207	19	11
Habitation structure	3	0	44	7	23
Hearth	1	1	1	5	2
Modified tree	27	7	35	62	102
Non-human bone	8	2	7	4	1
Ochre quarry	3	1	8	0	2
Potential Archaeological Deposits (PADs)	75	12	252	128	68
Shell	906	175	2260	560	270

Stone arrangements	2	2	18	9	4
Stone quarry	14	0	3	16	13
Waterhole	10	0	8	2	2
Total	2889	461	6565	1884	1078

For all marine bioregions, artefacts are the most common feature, which are generally recorded as a single stone artefact or a scatter of stone artefacts, ranging from a few, to thousands of artefacts. Scatters generally represent a camp site where artefacts may have been manufactured. If close to the coastline, there is a high likelihood that the artefacts were utilised in obtaining resources from the marine estate.

Shell is the second most commonly recorded feature, which, if occurring as a midden (as opposed to scattered pieces of shell) are of particular relevance when exploring Aboriginal connections to the NSW marine estate. Coastal shell middens, once carefully excavated and analysed can provide a detailed picture of traditional diet as well as demonstrating the time depth of Aboriginal use of marine resources. Middens are characterised by molluscan shells which not only give insight into species chosen for food or bait, their calcium carbonate is alkaline and offers an ideal environment for preservation of organic material such as plant remains, implements made from wood, bone and shell and the bones of fauna caught and eaten, such as fish, birds, marsupials and marine mammals. Human skeletal remains are also commonly found in shell middens along the NSW coast, reflecting traditional burial practices. There are many examples of excavated middens that have provided invaluable information on species of fish and other fauna harvested by Aboriginal people, as well as evidence for the technologies used to harvest them (McBryde, 1982; Bowdler, 1982). Fish hooks are direct archaeological evidence for fishing and a study of the Birubi shell middens near Port Stephens revealed evidence for a fish hook manufacturing 'factory', using the heavy turban shell *Ninella torquata* and a similar technique to south coast fishers (Figure 7) (Dyall, 1982).

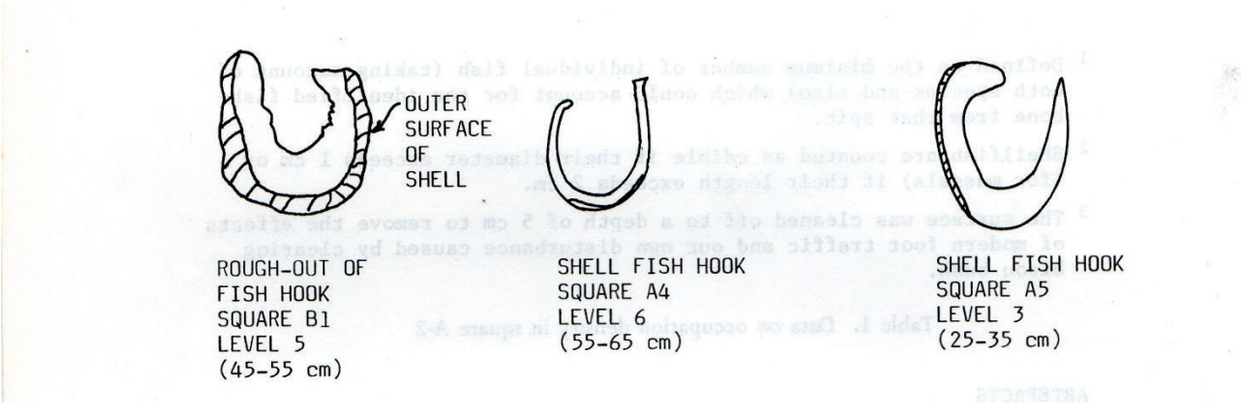

Figure 7: Stages of fish hook manufacture, Birubi midden. Source: Dyall, (1982)

Inevitably the archaeological record is biased, because over time, some organic remains preserve better than others. Thus the exoskeletons of invertebrates such as lobsters and crabs rarely preserve at all, while the fragile bones of fish and birds tend to disappear quite quickly. By contrast, the robust shells of large gastropods such as *Cabestana splengeri* (Figure 8) and the Sydney Cockle [bimbula] *Anadara trapezia*

(Figure 9), both highly sought after traditional foods, tend to decay much more slowly, and in some cases, appear to dominate a midden (Figure 10).

Figure 8: Conk Shell, *Cabestana splengeri*

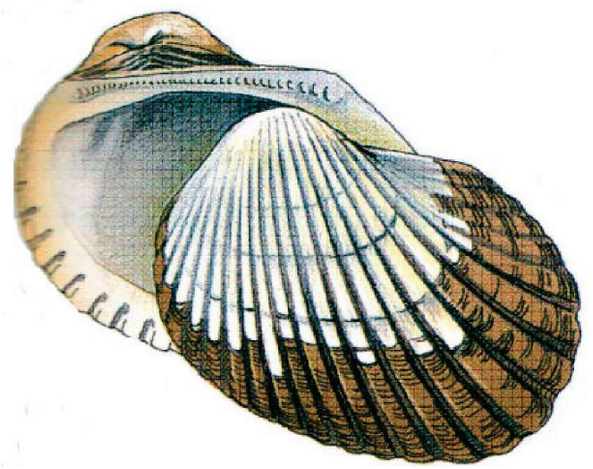

Figure 9: Bimbula, *Anadara trapezia*

Figure 10: Extensive shell midden [white areas], Murramarang Point, south coast, comprising mainly *Cabestana*. NPWS collection, photo late 1970s

Other shells, such as abalone, tend to decay very quickly, due to the way calcium carbonate has been laid down in the shell (Feary, 1981)(Figure 11). Some species such as *Turbo*, have shells that break down rapidly, with the small but remarkably robust opercula as the only testimony to their presence.

Figure 11: Abalone, walkun, mutton fish (*Haliotis ruber)*

A site type connected directly with and often located within the NSW marine estate is the fish trap, with 16 recorded along the NSW coastline, mostly on the north coast. Fish traps were constructed to trap fish in shallow water on an outgoing tide, when they can be stunned or netted. Construction used durable material such as stone or brush (which does not preserve). A stone fish trap at Mystery Bay on the far

south coast has middens close by, as well as pipeclay sources and spiritual sites and the whole complex represents strong subsistence and cultural links (Feary & Donaldson, 2011).

The Aboriginal origin of a fish trap is not always easy to determine. Local Aboriginal people have knowledge of and talk about use of a stone fish trap in the Buckenbowra River on a tributary of the Clyde River that runs into Batemans Bay. However, it is possible that the structure was made by early white settlers to get across the creek and was used historically by local communities for trapping fish (Figure 12). Conversely, it may have been built by Aboriginal people and then modified by white settlers (Feary & Donaldson, 2011).

Figure 12: Buckenbowra fish trap, NSW south coast

Art sites may depict aspects of the marine environment, for example rock engravings around Sydney Harbour.

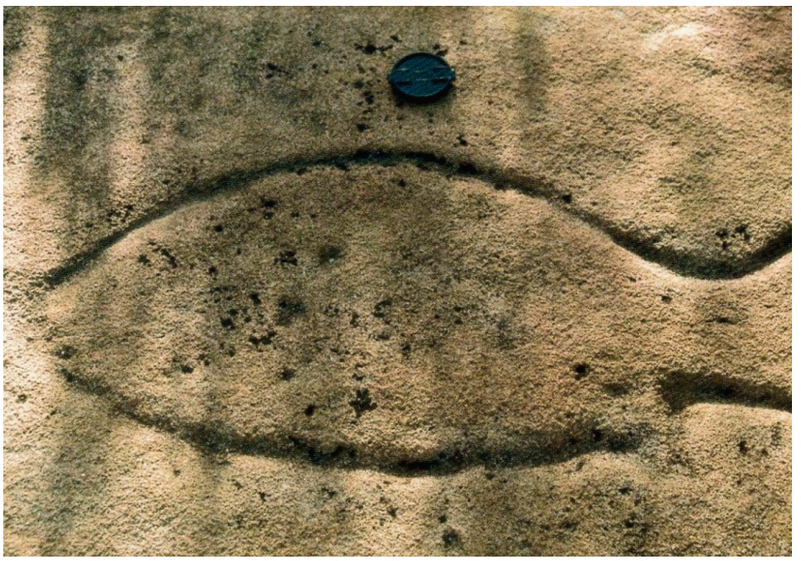

Figure 13: Fish engraving, Grotto Point, Sydney Harbour National Park (Attenbrow, 2010

Other site types with physical expression are scarred trees resulting from bark removal to make canoes, or containers (coolamons) or carrying shellfish or fish.

Marine parks and archaeological sites

There are six marine parks in NSW, five of which have recorded Aboriginal sites in or adjacent to them (Figure 14). Table 5 shows the number of recorded sites in/adjacent to the five marine parks, as a percentage of the number of sites in the marine bioregion as a whole.

Table 5: Archaeological sites in marine parks

MARINE BIOREGION [no. sites]	MARINE PARK	NO. RECORDED SITES	% OF TOTAL NUMBER OF SITES/BIOREGION
Tweed-Moreton			
[1078]	Cape Byron	32	3%
	Solitary Islands	118	11%
Manning Shelf			
[1884]	Port Stephens-Great Lakes	245	13%
Hawkesbury Shelf	No marine parks		
Batemans Shelf			
[2889]	Jervis Bay	221	8%
	Batemans	653	23%
Twofold Shelf	No marine parks		

Batemans Marine Park currently contains the highest percentage of sites. This reflects the configuration of the marine park, which includes 80 km of coastline with many lakes and headlands and other locations favoured by Aboriginal people as living places in pre-contact times. Academic research into the distribution of coastal middens on the south coast in the 1970s resulted in the recording of many hundreds of sites which are now included in or are adjacent to the marine park (Sullivan, 1982).

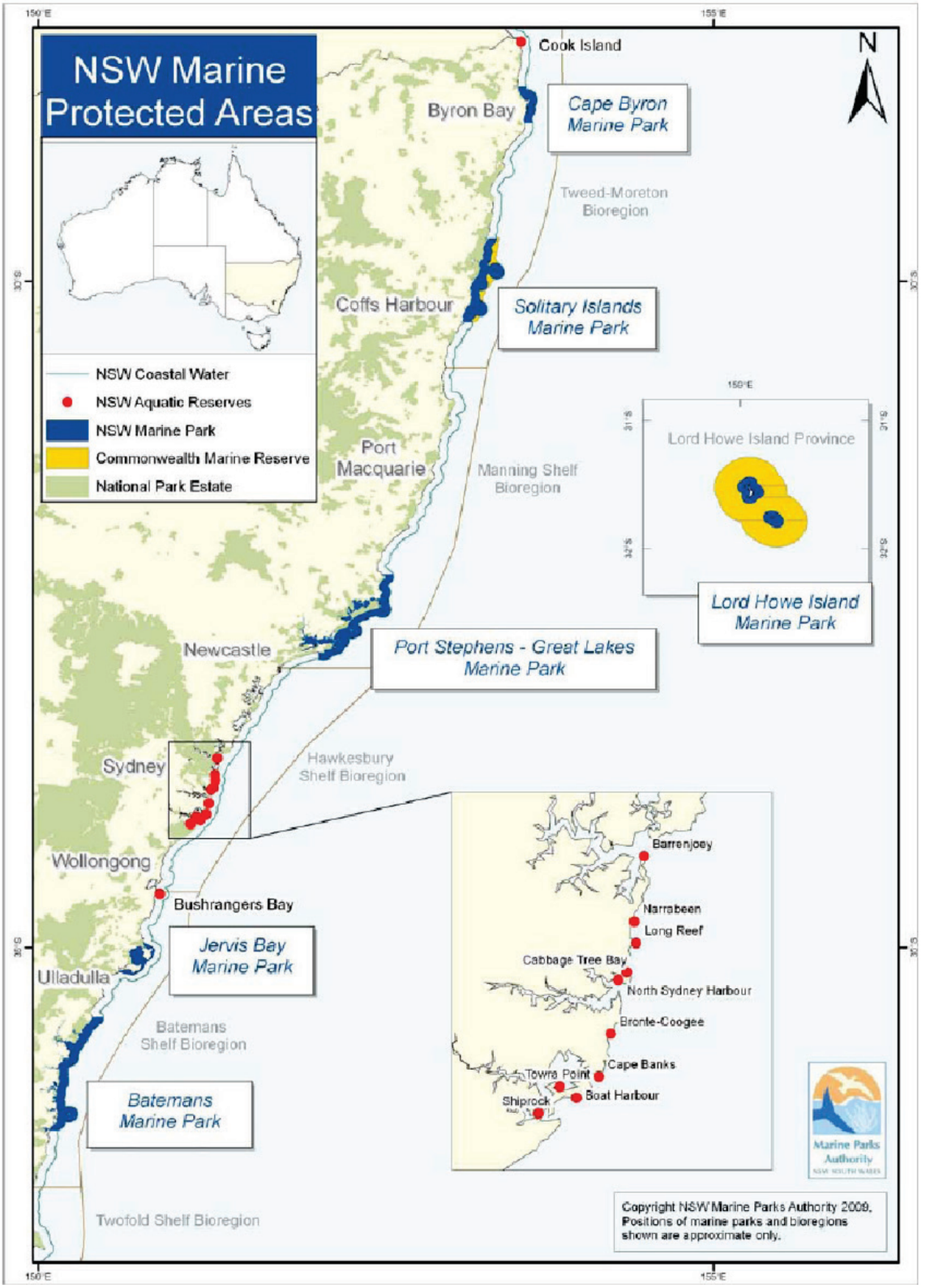

Figure 14: NSW's marine parks within the marine bioregions

Another useful analysis is to compare the number of sites associated with estuaries to those primarily linked with the open ocean. This is a reflection of fishing practices and cultural traditions, many of which

are continued today, in the same location and often with similar technology. Sites in the database were labelled either 'estuary 'or 'state coastal waters' which enabled the distinction to be made. Table 6 shows that estuaries, including lakes and lagoons, were preferred places to camp and live, presumably reflecting a preference for the resources available in these near shore habitats, as well as the limitation of bark canoes that could not travel far into the open ocean. It is particularly apparent in the Hawkesbury Shelf marine bioregion, and Figure 15 demonstrates the strong relationship between the distribution of sites between estuaries, etc (Est) and open coastal water (Open) in this marine bioregion.

Table 6: Percentages of sites in estuaries and adjacent to open waters

MARINE BIOREGION	TOTAL NO. SITES	ESTUARY SITES	OPEN COASTLINE	% OF TOTAL (EST) (OPEN)
Tweed-Moreton	1078	660	418	61% 39%
Manning Shelf	1884	1269	615	67% 33%
Hawkesbury Shelf	6565	5876	687	86% 14%
Batemans Shelf	2889	1804	1095	65% 35%
Twofold Shelf	461	304	157	66% 34%

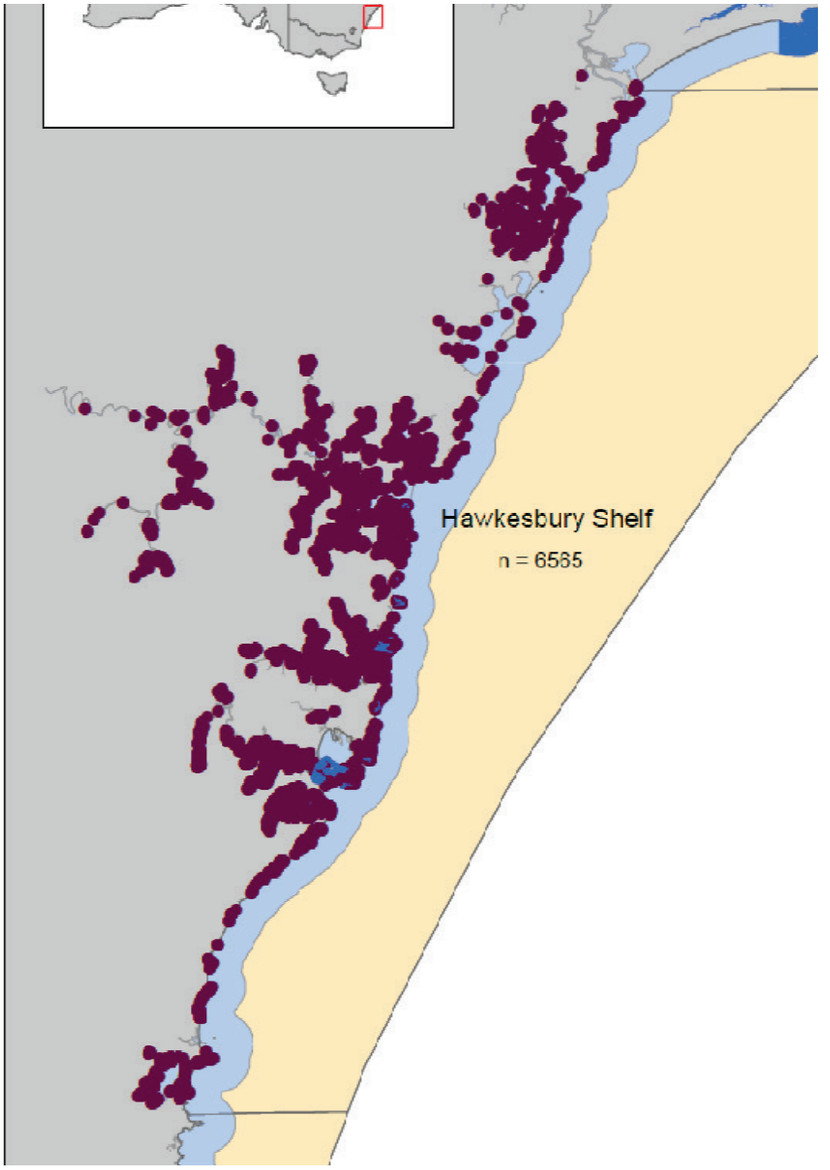

Figure 15: Hawkesbury shelf marine bioregion showing site distribution.

2.6.2. Aboriginal religious beliefs associated with the marine environment

> *Seascapes concern more than marine subsistence……seascapes are defined by cosmologies that frame and constrain perception, engagement and use of seas. Seascapes are animated spiritscapes because ancestor spirits – both creator beings and the 'Old People' - imbue seas with spiritual energies, fecundity and sentience. Certain features of the sea, such as islands, sandbanks, reefs, rock outcrops, tides and currents, along with sea creatures, are often seen as the result of creative acts by ancestral beings during a mythical past ….the Dreaming…. For many groups, these features are visual manifestations of the ancestral beings themselves. In other situations, features spread across tens and even hundreds of kilometres of sea are associated with particular Dreaming creative acts* (McNiven, 2003, pp. 332-333).

The Aboriginal religious belief system holds that the land the waters, the people, animals, natural phenomena, totems, languages and customary laws were created in a mythological era known in Aboriginal English as the 'Dreamtime'. Distinct from other parts of Australia, Aboriginal religious beliefs across southeast Australia commonly feature a central named ancestral being, a 'tribal all father' variously known by different Aboriginal groups as Daramulun, Baiame, Koin, Nurrundere, Nurelli, or Mungan-ngaua (Howitt, 1996). It is these ancestral creator beings that are believed to be the spiritual ancestors of present day Aboriginal people; their past actions are re-enacted today through song, dance, painting and storytelling.

Amongst the coastal groups there are numerous 'creation stories', many of which incorporate the marine environment. In 1892, for instance, Livingstone recorded a story about the origins of the Bundjalung people:

> *Long ago, Berrung, with his two brothers, Mommom and Yaburong, came to this land. They came with their wives and children in a great canoe, from an island across the sea. As they came near the shore, a woman on the land made a song that raised a storm which broke the canoe in pieces, but all the occupants, after battling with the waves, managed to swim ashore. This is how "the men", the paigal [sic] black race, came to this land. The pieces of the canoe are to be seen to this day. The pieces of the canoe are certain rocks in the sea* (Livingstone, 1892).

There are also mythological stories about the creation of off shore islands, headlands, inlets, and other coastal places. One version of the creation story relating to the Five Islands, south of Wollongong [Flinders Islet, Bass Islet, Martin Islet, Big Island and Rocky Islet] was reported in the Illawarra Mercury in 1950:

> *Oola-boolawoo, the West Wind, lived on top of the Illawarra range ('Merrigong') with his six daughters, Mimosa, Wilga, Lilli Pilli, Wattle, Clematis and Geera. With the exception of Geera, these daughters one-by-one became rude and badly behaved. Each time this happened, the West Wind threw the naughty daughter along with the rock she was sitting on into the sea. Each rock formed an island, now known as the Five Islands, and the daughters became little mermaids or dolphins. Geera was left alone on the mountain and became very lonely, sitting year after year hunched with her arms around her ankles gazing down at the islands. She sat so still and quiet that she turned to stone, becoming the part of the mountain range now known as Mount Keira*

There are stories relating to the ocean about the creation of traditional rules or laws, as described by Yuin elder Max Harrison [Dulumunmun]:

> *In the beginning, during the Dreamtime, someone had to come out of Gadu [ocean] to look after the food and medicines that were up and down the coast of the Yuin Nation. A lot of the Whales and Dolphins were elders too, and they were also looking for someone to be the keeper of Gadu and Barran-guba. Barran-guba wanted to go out into Gadu and hold the law of the sea and look after all the food and medicines. So Koorah Koo-rie wind spirit blew and pushed Barran-guba out to sea. Barran-guba [Montague Island], then settled at sea and began to look after the fish and medicine that were all around. Gadu gives everything we need to take from it. The spirits are still on Barran-guba. They are the guides, the keepers of this place* (Harrison and McConchie, 2009).

Of utmost importance is the belief that the souls or spirits of the deceased enter certain species, as part of the cycle of life. George Walker documented Aboriginal spiritual beliefs relating to dolphins and orcas (killer whales) and the afterlife, as described to him by Berry at Shoalhaven in 1837:

> *' … The blacks of this district believe in the transformation of the souls. Alexr Berry was out one day in a boat, having a number of Aborigines with him. In the course of the day several porpoises came alongside, and the blacks seeing him make preparations to shoot at one tried to dissuade him from his purpose, he however shot one, at which they appeared much disturbed. On returning home, the blacks related the circumstance of his having killed (or wounded) a porpoise to the women who had been left behind, on which they showed symptoms of extreme dissatisfaction and horror, and immediately began to wail. It appears they have an idea that the souls of their deceased chiefs inhabit the bodies of porpoises after death, hence their reluctance to kill, or injure any of these animals. This, Alexr Berry, learned from the blacks themselves in answer to his enquiries … '* (extract from 1843 journals of George Washington Walker, in Organ, 1990: 207).

Following on from the belief that certain marine species hold the spiritual essence, the soul, of human [as opposed to mythical] ancestors, we can begin to understand the deep connection Aboriginal people have with the sea. This special cyclical relationship is maintained in many ways, including through the sharing of a meal, as described by Max Harrison:

> '*Most of the whales and fish were once elders on the land but now they are elders of the sea. Each and every one of them would have to hold the same law of the sea. There is a time for them to come back in, a matter of giving up their lives. Gurawill comes the whale comes and beaches itself on our shores. ……the message would get out and all the different clans and mobs would arrive to feast on the whale that had given up his life so that the law could be known. Whilst the people were eating the flesh of the whale they would be learning more of the wisdom of the ocean* (Harrison and McConchie, 2009).

The cultural significance of the ocean in Aboriginal religious beliefs differs from group to group and is not fixed in past mythological happenings and creation stories. Howitt recorded how the Worimi at Port Stephens relied on the ocean tides during mortuary ritual when '*the body was neatly folded in bark and was placed in the grave at flood tide; never at ebb, lest the retiring water should bear the spirit of the deceased to some distant country*' [Howitt, 1904:465].

The places where ancestral figures are believed to reside today are sacred and thus respected. Devil's Hole on the ocean side of Beecroft Peninsula at Jervis Bay, is home to Bundoola, the great rain spirit, who was associated with the wellbeing of marine resources, by controlling the weather and the seas (Egloff, et al., 1995). Bundoola's thirteen wives travelled across the south coast region, becoming the original ancestors of the south coast tribal groups; the site is revered in association with these values and in particular, as the resting place for Bundoola (Egloff, 1995).

2.6.3. Totems

An important cultural protocol is the responsibility to take care of sea country. Custodianship of the land and waterways is a position inherited by Aboriginal people from their ancestors. Custodial obligations have been refined over thousands of years and originate in the spiritual connections between Aboriginal people

and the land, as exemplified by the Dreamtime. To many Aboriginal people, the entire landscape is imbued with a spirituality, which is intertwined with them as custodians of the land and water for which they have ongoing responsibilities to care for.

Aboriginal custodianship can also be understood as the culturally engrained care and concern for the natural world. Custodial rights are expressed in a number of ways including through song, dance, painting, carving, storytelling and totemic affiliations. Today, specific totemic connections between people and particular species continue to form part of local Aboriginal identity and provide a means for people to care for country, including the waters. Forming kinship and totemic relationships across the NSW marine estate also provides a platform for the maintenance of ecological knowledge associated with the sea.

'Totem' is an American term used to describe the complex interrelationship between people and the natural world, the two providing mutual benefits to each other through a spiritual, yet tangible interdependency. Although the term 'totem' is not widely used by Aboriginal people, the cultural practice exists across Australia including in parts of NSW (Rose, et al., 2003). Different tribal groups have terms in their own languages to describe the special relationships between a person and his / her spiritual totem, for instance, the Dhurga say 'Moojingarl' after the term 'Mooji' being a close friend [Umbarra Aboriginal Cultural Centre ND].

Totems can stand for or represent an aspect of the natural world as well as provide kinship links between the people or group whom identify with a particular totem, as well as kinship links to the natural world (Rose, et al., 2003). Accordingly, totem species become part of an Aboriginal person's extended family. When investigating Aboriginal people's kinship with the natural world with Yuin people residing at Wallaga Lake on the south coast of NSW, anthropologists found that totemism is a dynamic system set within a broader context of respect and care. The two sacred mountains of Gulaga (Mount Dromedary) and Biamanga (Mumbulla Mountain) are central to this broader context; they are sites of origin, of connection, and of teaching. Here, mutual caring between human and non-human kin and between land and living things is a dynamic reality.

Rose et al. (2003) identified three primary aspects to cultural forms of mutual caring (Rose, et al., 2003). Firstly, totemic connections are expressed as a general worldview or cosmological framework in which 'Dreamtime' ancestral creator beings made totems. Secondly, the connections between humans, plants, animals, birds and fish are evident at a variety of personal and social grouping levels including family, tribal and ceremonial. Thirdly, the relationship developed between a person or group and a totemic species allows for mutual protection and assistance through ongoing environmental interactions. Overarching each of these facets is the need to teach each generation the value of respect and obligation in relation to totems. Accordingly, cultural teaching places are integral components to the cultural landscape in relation to totem species and their habitat.

There are a number of different forms or categories of totems including personal totems, gender totems, family or clan totems, and tribal totems as described for the Arakwal people of the north coast. [14]

[14] http://arakwal.com.au/totems-messengers/

There are totems that link us together as women and as men, as a clan or land-connected unit, and as a bigger tribe of people living in Country. Wajung, the dolphin, is the totem of the Arakwal women, and Miwing, the sea-eagle is the men's totem, and our clan totem is Kabul, the carpet snake. We are the carpet snake people.

Bottlenose Dolphin (Tursiops aduncus) is an important totem for our people, especially our women. Wajung gives us messages about relationships between our clan members, to our ancestors and the past, and also to particular places and sites in our Country. We have stories of our people and dolphins communicating and connecting with each other, including co-operative fishing, sharing resources from the ocean, and playing in the shallows.

White Breasted Sea Eagle (Haliaetus leucogaster) is an important totem for us, especially our men. Miwing gives us messages about clan and family groups, provides knowledge on hunting practices and environmental events on Country.

In describing the concept of 'Country' and the importance of the Sky, Land and Sea to the Dharawal People, Bursill and Jacobs [2001] note how totems play an important part in their everyday life, such as what they could hunt or eat, their relationships, marriage partners, ceremonies and their connections with their ancestors. They describe how a totem, or kinship creature, gives its owner spiritual strength and comfort for those living in the Dharawal area and how totems were believed to act as a guide and support for people in hard times or when in danger.

'All the elements of the natural world, the earth, the sea and the sky are aspects of the unique relationship that all Aboriginal people have with the world. These parts all make up the idea of 'Country'. The Dharawal whale, which is depicted seven times within The Royal National Park, is the totem for this area' (Bursill and Jacobs, 2001:11).

The importance of caring for a totem species extended to safeguarding their habitat and associated food chains, creating a spiritual stewardship of these environments. Koori knowledge holders often speak of protecting their totemic species by not eating or killing it, and taking care of the habitat that sustains it. In other words, the Aboriginal totem system was in fact an original form of species conservation.

Walbanja elder Georgina Parson's totem is the sea eagle. She is not permitted, in accordance with Aboriginal Lore, to eat the sea eagle (Georgina Parsons 14.12.2005 in Donaldson 2006). The late Mary Duroux expressed concern for the future of the Gunya (black swan), the tribal totem for the Moruya area, because they mate with one another for life and lay their eggs in one place. If their nests were to be damaged they would have nowhere to lay their eggs (Mary Duroux 6.2.2006 in Donaldson 2006), (Figure 16).

Figure 16: Black swans and Ibis, Lake Wollumboola, south coast. Source: OEH Queanbeyan

Certain fish and other water bird species were recorded in 1904 by Howitt as being valued as patrilineally inherited totemic species on the NSW south coast for the Yuin [= Walbanja, Djiringanj, Thaua and Bidwell groups], including bream (Burimi), water hen (Ngariba), white-breasted cormorant (Berimbarmin), the pelican (Gurung-aba) and black duck [Umbarra] (Howitt, 1904:133).

Today, the totems identified by Howitt are seen as tribal or family / clan based totems, as distinct from ceremonial totems. For the Yuin, ceremonial totems are bestowed upon an individual only after they have attained a certain ritual status. Much of the information associated with ceremonial totems is restricted to certain individuals and for coastal people, often relates to ocean fish species, as described by Randall Mumbler:

> *'… Fish are more likely to be ceremonial totems; it is not common to have a fish as a totem. It is more common to have a budjarn [bird] as your mudji [friend]. Different fish species are relevant to certain people in the tribe as their totem. I have certain species that I can't fish for or eat. These rules have been placed upon me through ceremony and so I stay away from them. There are certain fish that my brother and I never eat. That is also like a conservation thing….it keeps that species alive* (Donaldson, 2012, p. 24).

The Tharawal people also understand dolphins as holding special powers of protection, whilst the killer whales (murrara), pelicans (gurang-aba) and white breasted cormorants (berimbarmin) had spiritual significance as totems (Wesson, 2005).

Symbolic representations of totem species, for instance in rock engravings, or as spiritually imbued in 'sacred sites', gives further meaning to the relationship Aboriginal people have to totem species and the interconnections across land and sea country, as described by Yuin elder Max Harrison ;

> *'up on Gulaga [Mt Dromedary] there are many rocks or tors, each tor is a chapter in our creation story. You'll look down and see the first group of big totems; the Whale Rock, the Dugong, the Shark. The Whale Rock, this rock signifies the Whale coming up out of the water to spread his lore so we can understand more about the sea'* (Harrison and McConchie, 2009)

2.6.4. Protocols and ritual practices

Robert Mathews, an early surveyor and anthropologist, observed how cultural practices dictated who could eat certain fish and when. For instance, when schools of fish arrived for the first time in a season young girls and uninitiated boys were forbidden from eating them. According to Mathews, *' .. the bones of fish during this period must not be given to dogs, but must be burned, otherwise schools of fish would go elsewhere'* (Mathews 1904: 58).

Another cultural protocol recorded by Mathews specifically related to pregnant women and fish, whereby if a pregnant woman were to eat the seasonally forbidden fish;

> *' … the spirit of the unborn babe would go out of its mother's body and frighten the fish away. If a male infant, it would have a fishing spear – if a female a yam stick – and stand on the water at the entrance to a fishing pen, or in front of a net, and turn the fish back. The fish are more afraid of a male infant, on account of its carrying a spear, than of a female. Although these spirit children are invisible to human eyes, the old men know they are present by the movements of the fish, and at once suspect some woman of having broken the food rules … '* (Mathews, 1904:58).

Janet Mathews recorded a similar protocol 70 years later. She found that it was not only believed that pregnant women eating school fish would result in this food source becoming scarce, but also that it might result in deformity of the unborn baby (Mathews 1979:46). Moreover, in some areas pregnant women could not eat snapper, bream or groper, eating only rock cod, flathead and leather jacket (Mathews, 1979:46).

Early records in the Sydney area provide accounts of a female ritual associated with fishing, as described by John Turnbull in 1800:

> *'….Whilst the female child in its infancy, they deprive it of the two first joints of the little finger of the right hand; the operation being effected by obstructing the circulation by means of a tight ligature; the dismembered part is thrown into the sea, that the child may be hear after fortunate in fishing…..'* (Turnbull, 1805, pp. 84-85)

Half a century later the same practice was observed in Port Stephens, by Mr William Scot who understood the ritual to ensure that fish;

'were attracted to the rest of the hand from which it had come.

A particular woman by the name of 'Fanny' had undergone this ritual and 'was indeed wonderfully lucky fisher' (Bennett, 1929, p. 8)

The ritual is known as *Malgun* as was practiced by Aboriginal women along coastal NSW during the 18th and 19th century and presumably in pre-contact times (Roberts & Schilling, 2010).

Cultural protocols apply to places as well as practices. The Arrawarra Headland, for instance, is an important men's rainmaking site; women and children are instructed not to venture onto the headland itself (Marine Parks Authority, 2015). Similarly, the northern end of Baranguba [Montague Island] is restricted to men only. Women are permitted to go to the southern end of the island (Pam Flanders 11.4.2006 in Donaldson 2006). Oral history records similar restrictions on the NSW south coast at Broulee Island (Beryl Brierley 19.12.2005 in Donaldson 2006) and Barlings Island (Symalene Nye 15.11.2005 in Donaldson, 2006),

Ritual performances associated with the marine environment features strongly amongst NSW coastal groups. We are fortunate to have a detailed description of ritual practise undertaken by a Thoorga man in relation to the marine environment, as documented by ethnologist Mathews;

> *' … when the natives observe a whale, murirra, near the coast, pursued by killers, manana, one of the old men goes and lights fires at some little distance apart along the shore, to attract the attention of the killer. He then walks along from one fire to another, pretending to be lame and helpless, leaning upon a stick in each hand. This is supposed to excite the compassion of the killers and induce them to chase the whale towards that part of the shore in order to give the poor old man some food. He occasionally calls out in a loud voice, "gaai gaai dyundya waggarangga yerrimaran – hurdyen", meaning "heigh – ho, that fish upon the shore throw ye to me" … if the whale becomes helpless from the attack of the killers and is washed up on the shore by the waves, some other men, who have been hiding behind the scrub or rocks, make their appearance and run down and attack the animal with their weapons. A messenger is also despatched to all their friends and fellow tribesmen in the neighbourhood, inviting them to come and participate in the feast. The natives cut through the blubber and eat the animal's flesh. After the intestines have been removed, any persons suffering from rheumatism or similar pains, go and sit within the whale's body and anoint themselves with the fat, believing that they get relief by doing so … the killer eat only the tongue and lips of the whale.' (*Mathews, 1904:50–51).

Gumbaingirr people used to sing to whales and dolphins near Corindi Beach rock platform [English 2002: 83]. Gumbaingirr women used to 'sing in the dolphins', who would round up the fish into the traps;

> *"The women, they'd go out into the water, wade out to their waists and sing, to sing in the dolphins, and these dolphins would bring in the fish into the traps, and then the men did the fishing using the traps."* (Marine Parks Authority, 2015)

Bill Campbell describes to anthropologist Brian Egloff in 1979, how the whale near Eden helped the fishermen:

> *' … They used to have a whale there, they used to call him, they used to call him. When they sing out, he used to come in and whack himself, like that – his tail like that and wake the whalers up and away you'd see him go. And they used to follow him out and they'd get them (whales) too in them days. Look I seen them boats when they peak their oars, their oars would stand up like that. That's the way they'd peak their oars over the boat and she'd sit out in the trough to the water like that and all you could see was just the peaks of the paddles with the force of that whale going. She'd*

have a harpoon into him – he'd come right up alongside and they'd hit him with a harpoon … ' (AIATSIS, 1999).

2.6.5. Traditional ecological knowledge

Fishing and the collection of other marine resources is a means to feed the family and reconnect with traditional land and waters. The timing, the method, the quantity, the distribution, are all guided by specialised knowledge of the ecology that has been acquired and handed down through the generations since time immemorial.

Traditional Ecological Knowledge – generations of custodians learning about local places, where to camp, where and when to fish, understanding the tidal and seasonal variations affecting marine resources, watching for signs in the surrounding landscape indicating fish in the waters, dangers to avoid, and passing acquired knowledge on to the next generation. In 1978 Charlie Ardler, a Wreck bay man talked about what makes a good fisherman and the habits of fish species;

> *' … Oh, you've got to put your mind to it. Study the fish – how they travel, when they travel, how many cases in a heap – a school. Yes, I can tell. And what sort of fish they are. You have got to be able to tell that. Different weathers you have will bring the fish. The moon – new moon will make the fish travel. It'll bring the fish. New moon and full moon. In the season it starts them moving – new moon we call it … '* (AIATSIS, 1999).

In 1826 the French explorer, Jules d'Urville noted similar instances of traditional knowledge at Jervis Bay;

> *They looked for rocks overhanging water's edge and from this platform they would spear any fish lured to the area by morsels of shellfish scattered by the hunter.*
>
> *Their long light fishing spears were constructed from several flower stalks from the grass tree, spliced together with bands of sinew and waterproofed with an insoluble resin obtained from the same plant. The several hardwood prongs on these fishing spears were armed with needle sharp bone splinters firmly bound and waterproofed in the same way* (Clark, 1993).

Knowing how to sustainably utilise the marine environment involves a complex understanding of all that relates to it, including the currents, winds, seasons, breeding cycles and the marine habitat, as described by Max Harrison:

> *Koorah Koo-rie wind spirit comes in from all directions. When Koorah Koo-rie wind spirit is coming from the west over to our eastern sea board, my Uncles would know and go over to the beaches to sing up that west wind for it to blow off shore. Then they could see the waves and throw their nets; they would catch five or six big fish, enough for a feast…I witnessed my Uncles and father chanting and calling in Koorah Koo-rie wind spirit then getting into the water and slapping the surface of the sea with their sticks. This was a message that went out to the dolphins so they would herd in the fish. The dolphins would drive them into the channels and we would hunt them from there. These old men were masters of communicating and getting in touch with the spirit of the dolphins. They never went out in a boat and trained the dolphins to do this; they did this through connection of*

spirit, telepathy. You see we are creatures of the land, the dolphin from the sea, there is a shared connectedness between us.' (Harrison & McConchie, 2009).

Intimate knowledge of seasonal cycles has developed over thousands of years and has been accompanied by the development of unique terms. For instance, the Dharawal conceptualise there to be six annual seasonal cycles relevant to their Country. [15]

Burran	January February March	Hot and dry
Marrai'gang	April May	Wet becoming cooler
Burrugin	June July	Cold, frosty, short days
Wiritjiribin	August	Cold and windy
Ngoonungi	September October	Cool, getting warmer
Parra'dowee	November December	Warm and wet

This deep understanding made it possible for Aboriginal people, for instance, to carry people offshore to seabird nesting islands in small bark canoes, to hunt mutton birds and little penguins, and to gather birds' eggs for annual feasts (Organ, 1990). They knew when to go and how to get there.

A number of historical records describe the use of bark canoes along the NSW coastal region. In January 1788 William Bradley made the following observations in Port Jackson:

'As we were going onto the first cover on the east side called Spring Cove, we were joined by three canoes with one man in each, they hauled their canoes up and met us on the beach, leaving their spears in the canoes, we were soon joined by a dozen of them, ……they had trinkets hanging about them that had been given to them a week before by the governor on his first visit to this place….several woman appreciated from a distance, but we could not prevail on the men to bring them near us. We had the opportunity of examining their canoes….the canoe is made of the bark taken off a large tree of the length they want to make the canoe, which is gathered up at each end and secured by a lashing of strong vine which runs amongst the underbrush, one was secured by small line, they fix spreaders in the inside, the paddles are about two feet long in shape like a pudding stirrer, these they use one in each hand and go along very fast sitting with their legs under them and their bodies erect….in these canoes they will stand up to strike fish at which they seem expert..' (Bradley, 1786-92 [1969], p. 68).

In 1797, not quite ten years later, the survivors of the wrecked 'Sydney Cove' crossed other rivers in the region on their way from Cape Howe to Sydney. The following description of a river crossing took place in Moruya, as recorded by William Clark, one of the survivors:

' … came to a large river, where we met with a few natives, who appeared very timorous at seeing us; but in a short time we came to a better understanding , and they kindly carried us over in their canoes. This was not accomplished without several duckings, for their rude little vehicles formed of bark, tied at both ends with twigs, and not exceeding 8 feet in length, by 2 inches breadth, are precarious vessels for one unacquainted with them to embark in, though the natives, of whom they will carry three or four, paddle about in them with the greatest facility and security. After crossing and receiving a small fish at parting, we walked 10 miles … ' (Clark, 1797).

[15] http://www.bom.gov.au/iwk/dharawal/index.shtml

McCarthy (1944) found each family to own one or two canoes, which were often left on the beach or riverbank near the camp, but when strangers approached they were concealed. For instance, when Bass and Flinders appeared at Twofold Bay in 1799;

> *'… two natives paddled to the shore, swung their canoes onto their heads, and ran into the bushes fringing the beach ... '*
>
> *' ... The canoe, although made by the men, was used chiefly by the women along the coast for fishing with hook and line or for gathering oysters and cockles on mud flats and shoals … one or two fish were cooked on the fire in the canoe and eaten to ease the pangs of hunger during the day's activities … '* (McCarthy, 1944:185)

Herbert Chapman told Janet Mathews at Wreck Bay in 1965 of a boat trip he took with his parents in 1906 from Wallaga Lake to Lake Tyers when his father made a bark canoe and bark paddle (Figure 17):

> *' … About 1906, if I could remember rightly, that my mother wanted to take the children to see the grandparents, her mother and father. And we set out from Wallaga Lake and I took – I think it took us over a week. Twelve miles before we come to the station, the Mission Station of Lake Tyers, father decided that they would make a canoe to save the children, as it were, from a walk and finally they made a canoe out of stringy bark … I think, if I remember rightly, they stripped the bark off the tree – get the right length and then they had to burn the bark, as it were, scorch the sap out of it. They stood the bark up against the tree after they had stripped the bark off – after they had taken it off – then they make a fire on the bottom of the bark so that the heat of the fire could go through and burn all that sap out of it. And that sort of made it crack proof, as it were. If they hadn't done that, well, just by holding the bark up or opening up, it would crack by scorching, as it were, the sap in the inside of it. It would, it would make it soft. Rather than break – any time – where you'd put your feet onto it or your hands or to put any weight onto it at all – instead of breaking, it would just go into shape … '* (AIATSIS, 1999).

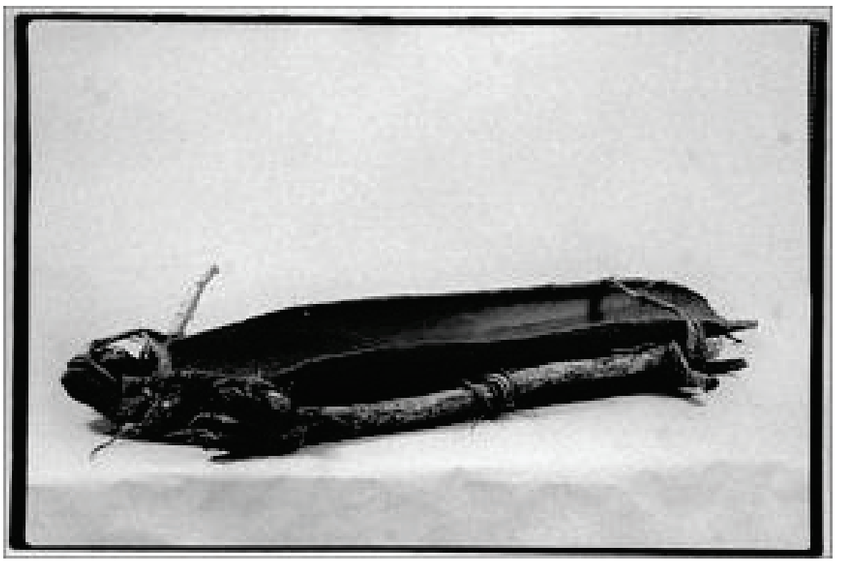

Figure 17: Canoe made by Percy Mumbler (Mumbulla), held in the National Museum of Australia. Source: AIATSIS, 1999

Other traditional methods of catching fish involved the use of 'fire sticks', as described by Charlie Parsons in 1965 at Wallaga Lake:

> *' … In them days, just a spear, just grabbed a spear and away we'd go. We used to go, well, boys, we used to camp on the other side of the island at the bridge there. There's a flat arm on the other side and we used to camp out and go torching overnight, see. Our old people – while we was away at work – they'd have our torch ready when we'd come home – just grabbed a spear then and (say), "Your ganyi(s) are there now boys. Your ganyi(s) are there.'" That's the firestick, see. Now like you say, like now, there's two of us. I have a mate with me. He speared the fish while I hold the torch. We used to chase them in the night, see … Torch attracts the fish – dazzles – dazzles the fish and he's not too much life in him. Put him in the bag. Get enough fish for yourself and of course the old people, here you'd have to get fish enough for them too. So once we'd get enough fish, distribute it amongst our old people, they were happy … '* (AIATSIS, 1999).

Other traditional methods of attracting fish including rubbing hook and line with a 'dead man's skin or fat', throwing little pieces of mullet fat on waves in lakes and estuaries to make the water smoother, and by breaking small pieces of crayfish, sea-eggs, cunjevoi or shellfish on the water to attract snapper and groper, when they nibble at the food, they are impaled with a spear (Mathews, 1904:54). The use of hands and feet was also popular (Les Simons in Donaldson, 2006).

A number of important high points along the coast have been used for thousands of years to gain visual access to coastal waters and fish stocks. Towers made from tree trunks and in later years with ladders and platforms, were also built as a way to view across waters in lieu of any naturally occurring high vantage points (Wesson 1996). Georgina Parsons and the late Leonard Nye described lookouts;

> *' … I remember Dad collecting all kinds of seafood within Batemans Bay including mussels. He also made a lookout using driftwood collected within the Bay. He used the lookout to spot fish swimming into the Bay '* (Donaldson, 2006, p. 38).
>
> *Leonard Nye, as well as his father and grandfather used the high point in the sand dunes along Barlings Beach as a lookout, when spotting fish within Broulee Bay, between Melville Point and*

Barlings Island. A platform raised on a pole was once located at this high point to allow fishermen to watch for the fish in Broulee Bay. The job of the lookout keeper was to hand signal those in a boat in the bay, informing them of which direction the fish are and where they are travelling. Old people taught Leonard Nye the sign language. Bream and whiting are harder to see, as they didn't school up like other fish (Donaldson, 2006, p. 53)

Memories of a saltwater woman: Gwen Russell, Port Stephens:

There are still some Aboriginal lookouts around the Port where the Aboriginal men used to climb up to spot the mullet coming in. They would signal and let others know so they could get to put a net around the catch. They still do it today as a matter of fact. The fishermen today stand on the cliff to spot the mullet coming. Then they run a net out on the beach and get them all (DECC, 2004).

Communication about fish movements between people situated close to the water and those on higher ground involved hand signaling or sign language, as described above by Leonard Nye and below by others:

' … From Broulee Lookout, one can see all the way along the coast to Bingie, officially known as Mullimburra. The lookout is used in the first instance, before the day's fishing begins, as a point of information. It is used to spot fish, assess the weather, assess the seas, communicate with fishermen on the beach and to meet other fishermen at the site. I've used the Broulee Lookout to spot fish since I was a child, working with my father. The location of Broulee Lookout, today, is slightly east of the lookout used 50 years ago. A landslip caused this change … ' (Donaldson, 2009, p. 2).

' … We'd catch the fish with a rowboat, one boat, one net, four men. It was a rowboat with a net rolled onto the back of it. Sometimes we had a double sculler on the 16 footer. The skipper was up here on the lookout, we knew how to see him, sometimes he'd whistle, how many boxes of fish coming. He used his hands to signal to let us know what to do, get 'em or wait for the bigger mob coming behind. Bream and whiting was a different matter, we'd take them for sure … ' (Feary & Donaldson, 2011, p. 80).

The Potato Point Lookout, on Potato Point Headland, has always been used to spot fish to the north and to the south. In Lionel's lifetime, Walter Brierley and his son Peter came here and used the lookout to spot fish. Lionel recalls them whistling instructions from the lookout to the boat below. ' … A long whistle meant 'go', a short whistle meant 'stop' and two whistles meant 'get ready … ' (Donaldson, 2006, p. 81)

Smoke signals, often thought of as a feature of past traditions were being used as a mode of communication during the 19th century, as described by Keith Nye:

' … Ernie Brierley and his family camped at Broulee Beach, or 'Little Beach', Candalagan, whilst the Nye family camped at Barlings Beach. Keith's father and Ernie Brierley communicated by way of smoke signalling: as the fish swam past Broulee, Ernie would send up smoke to inform Mr Nye of their presence … ' (Donaldson, 2006, p. 81)

Shellfish and fish were not just collected for food, which may explain the presence of certain species in middens. Certain shells were used to adorn graves, such as the burials at Murramarang and Caseys Beach which contained bimbula shells. Other species were used for fish bait while others were collected to make shell necklaces or other decorative items.

2.6.6. Transmitting and maintaining

Passing on cultural knowledge about the sea and its resources often took the form of teaching children songs or stories. Janet Mathews recorded some songs taught to Aboriginal children about fishing. Percy Davis grew up in the Tuross River area and learnt a song that *'calls on Gurrugumar, the westerly wind to blow and flatten the seas so the fish can be caught.'* Percy sang a song to Janet Mathews about spearing fish. The song describes two fish, the blackfish (wagal) and the silver bream. The song is about spearing the fish and then throwing them onto the shore (AIATSIS, 1999).

Resource collection places are closely related to living and camping places, as well as teaching and work places. Where families camped, they make use of nearby natural resources. Where families worked, they make use of nearby natural resources, and where natural resources are being collected, elders pass on traditional ecological knowledge to the next generation, teaching collection methods, prepare and cook/make, the food, medicine or object.

Vivienne and Carly Mason recall the importance of a camping site that continues to be used today, as it was in the past as evidenced by the archaeological material in the area:

> *' … six generations of our family have camped here, at Brou. This is a traditional fishing place and teaching ground, to teach young kids about bush plants, medicine, fire safety, cooking, boating. Key survival skills, training and story telling about our old people. Teaching them about the environment and to respect the land. Boys go with Ronnie to catch abs and collect firewood. Teach kids how to look after the wood, make sure they take the rubbish away. We have access to wild resources for cultural purposes and we are all reared on abs, periwinkles and pipis … '* (Donaldson, 2006, p. 97). (Figure 18)

Figure 18: Lake Brou, a place of resources and cultural significance

2.7. After white settlement

Colonisation had a profound and long lasting impact on traditional Aboriginal society, beginning in the Sydney region and extending rapidly north and south. Colonial settlement of the south coast began in earnest when Governor Macquarie announced the first land grants in the Illawarra in 1816 (Bennett, 2007). However, historical records suggest that despite the disruption of white settlement, the marine environment remained relatively unregulated and enabled ongoing use by Aboriginal people, using traditional methods described in the previous section (Bennett, 2007).

Egloff (1981) reports that the Office of the Protector of Aborigines provided a boat and fishing gear to Aborigines at Broughton Creek in 1882 and that a boat was also provided to the Jervis Bay people the following year. In 1878 people in Roseby Park, Bega, Ulladulla, Eden and Moruya were issued with Government boats and equipment. Census information reveals that Aboriginal people in Moruya were described as "remarkably well off and can earn the same wages as Europeans" with income earned from four fishing boats (Bailey, 1975; Organ, 1990). Between 1885 and 1905, a number of reserves were set up between Milton, Tomakin, Tuross and Wallaga Lake on the South Coast. These were "intended as a residential base from which to fish" (Goodall, 1982).

Cane (1998) provides the following summary of Aboriginal coastal societies and marine activities on the south coast of NSW following colonisation:

The earliest historic observations of traditional fishing on the south coast come from mariners between 1798 and 1826. They speak of the great desire of Indigenous people for fish, observed the remains of fish and seals at Aboriginal camps and saw them actively involved in European-style fishing activities, notably netting, a tradition they already practiced with their own nets, and which is still active today.

Land based settlement to the 1840s brought territorial conflict, warfare, massacre, and poisoning of the people on the south coast. Despite this, Aboriginal people were successful in maintaining and adapting traditions to the new economic circumstances (Cameron 1987; Rose 1990). Tribal people were recorded assisting the settlement process with traditional skills and resources. A resident in Moruya noted, in 1837, that "*shortage of food was at times acute. Aboriginal people saved the settlement several times from starvation by supplying fish and oysters*". Whether or not these products were bartered or sold is unclear, but it is clear that traditional foods were being sold later in the century: "*about 50 blacks were camped at Blackfellows Lake, on the Bega River between Bega and Tathra, some of whom worked for wages and some sold honey and fish*".

The application of Aboriginal fishing traditions to support the European economy seems to have commenced shortly after colonisation and survives today, through bartering and direct sale. Aboriginal men and women were involved in the European whaling industry from the outset, although it is unknown whether they received money or goods for their labour. Two boats were manned entirely by Aborigines in 1839 and three Aboriginal crews were working in Eden. Between 1829 and 1846 Indigenous people between Wollongong and Broulee were described as selling fish and subsisting "*from their ordinary pursuits of hunting and fishing*" (Organ 1990) and, as access to land diminished in the 1840s through settlement, forestry and pastoral development, "*people in the Broulee district depend more on the sea than the bush for food*" (Organ 1990). People also began to get seasonal work with farmers, such as small fruit and pea farmers. Others worked in timber mills. Most continued to subsist through fishing and the government provided another 18 boats to South Coast people (Goodall, 1982).

The documented interviews of NSW women capture the personal perspectives on life in the mid to late 1900s. [16] The interviews record the continuing use of shellfish (oysters, conks, bimbula , periwinkles pipis, muttonfish (abalone), cunjevoi, mud worms, crabs, prawns, lobsters and fish (mullet, groper, flathead, brim, whiting), as well as the loss of the traditional ways.

Although the competing interests in marine resources, introduction of European foods and imposition of new laws have changed Aboriginal people's relationship with the sea, the spiritual and family connections to traditional Country remain strong and carry with them ongoing obligations to look after Country.

Historically Aboriginal people have participated in commercial fishing as boat owners, labourers, and collectors and suppliers of bait. This was a seasonal source of income for many people. For example, Aboriginal people provided bait (beach worms) to holiday makers in many coastal villages (Cane, 1988).

There are various records of early Aboriginal involvement in commercial fishing operations run by Europeans and even Chinese settlers, including participation in abalone fishing, and whaling operations on the southern NSW coast (Butler et al., 2002; Blay and Cruse, 2004).

> *"During the depression the people of Wreck Bay were thrown back on their own resources. Three families camped on the southern beaches to be closer to natural food*

[16] OEH conducted a series of interviews with Aboriginal women and published a number of regional oral history booklets. See http://www.environment.nsw.gov.au/chpublications/ .

sources….People turned to a number of different pursuits to gain cash, one of those ventures being the gathering of abalone. After sun-drying on wire racks it brought six pence a pound from a 'Chinaman who came down from Sydney'" (Egloff, 1981:33).

Aboriginal commercial fishermen often attempted to continue to fish according to traditional and sustainable practices, but found that their methods were often rendered illegal by modern fisheries legislation (Hawkins, 2004). Enterprising Aboriginal people also used their fishing skills to support their own small-scale lobster and abalone trading activities:

'*Many is the time I came home to Yonga to find black gins waiting there with fish and lobsters for us. The first we might know was when we would see green lobsters alive scrambling around on the verandahs or covered way leading to the kitchen. Anyhow, business would be done, and beautiful big fish and lobsters would be traded in return for money or clothes and always a good feed for the gins thrown in'.* Jean Robertson 'An octogenarian remembers'. Illawarra Historical Society Bulletin July 1978 (DEC, 2005b)

Traditions of camping, collecting and continued throughout the 20th Century. In 1964 Jimmy Little Snr informed anthropologist Janet Mathews how the young adults get the food and make sure the old people and young children eat first:

' … We gathered the oysters and make a big fire. We cook all them up, see. We're not allowed to eat. The older generation, the older people must eat first and the babies. And if there's nothing left, we have to go and hunt for ourselves. First thing, we need to make sure the older people eat first … ' (AIATSIS, 1999).

Violet Parsons, an Aboriginal woman from Batemans Bay, recalls camping at 'Chapman's Beach'. The family would wait for the tide to go out before venturing onto the rocks to catch lobsters and muttonfish. There was no need to dive for muttonfish; they were exposed on the rocks at low tide. The kids would get conks and muttonfish hiding beneath the seaweed. A feast was had on the rocks, where the food was collected (Figure 19):

' … We would always have a fire going before people went diving, so when they got out, they could get warm quickly. After having a fill of food at the beach, if there was any left they would take it home to share with family. There is a certain area for cooking and throwing away the shells, like the rubbish tip (i.e. shell middens) … lobsters are better boiled, so it was always good to take them home to cook, whereas muttonfish and conks taste better when cooked on the hot coals …' (Donaldson, 2006, p. 50).

Figure 19: Catching and preparing seafood. Ricky Maynard, After 200 Years Collection, cited in AIATSIS 1999.

2.8. Contemporary connections

It is apparent that although the competing interests in marine resources, introduction of European foods and imposition of new laws have changed Aboriginal people's relationship with the sea, the spiritual and family connections to traditional country remain strong and carry with them ongoing obligations to look after Country (Barnett & Ceccarelli, 2007).

However, Aboriginal people's connections with the NSW marine estate occur in very different circumstances from 227 years ago.

> *What was once managed through complex customary based rights and responsibilities that identified access, use and distribution of resources, is now centrally allocated and controlled by governments. There are now a mix of activities, enterprises and people who have been granted permits or licences to use the sea's resources* (Smyth & Bahrdt Consultants, 2002, p. 16).

Aboriginal people's contemporary connections with the NSW marine estate sit in an uneasy space, where calls for traditions, ownership and rights to be recognised and respected i.e. recognising Aboriginality, come up against calls by Aboriginal people for an equitable share of the market economy of a resource-rich developed country i.e. citizens' rights. It was famously argued that western market economies and Aboriginal worldviews could not co-exist (Stanner, 1979) and modern Aboriginal society is often defined by its position outside the mainstream market economy. Harvesting marine resources is at odds with this argument in that Aboriginal traditional fishers integrated successfully and quickly into commercial fishing from soon after white settlement until relatively recently (Bell, 1955; Bennett, 2007). It has been argued that introduction of Share Management Fisheries had negative impacts on what had been a successful integration of cultural tradition with the market (Schnierer, 2011), particularly abalone on the far south coast (Cruse, et al., 2005).

A separation of cultural tradition from commerce has been perpetuated by some native title determinations as in the case of the Yorta Yorta peoples of Victoria. On the reasoning of the Yorta Yorta determination, adoption of a commercial industry may be interpreted as a rejection, rather than an affirmation of tradition and culture. In other words, the right of native title holders to exploit commercially their native title rights for individual or community development was not accepted as a natural extension of the recognition of native title (Strelein, 2005).[17]

The native title discourse has influenced government policy in NSW in regard to the NSW marine estate. The *Fisheries Management Act 1994* (FM Act) recognises cultural fishing and cultural use, but it does not extend to commercial fishing. Its exclusion has angered many Aboriginal communities, and has been interpreted as a failure to understand that in Aboriginal culture; fishing cannot be divided into commercial and non-commercial, and is therefore a denial of Aboriginal rights.

> *This definition does not reflect Aboriginal notions of cultural fishing and creates conflict between Aboriginal people and fisheries managers and between Aboriginal people. For example, some Aboriginal fishers explain that cultural obligation dictates that some members of the community are responsible for supplying large numbers of people with specific species, requiring harvest rates that the FM Act defines as commercial. By defining cultural fishing as non-commercial, the FM Act also serves to further segregate those Aboriginal fishers that have documented cultural commercial practices prior to and post colonisation.*
>
> *Aboriginal commercial fishers do not see a difference between their cultural practices and their right to derive a living – this distinction has been imposed on them by non-Aboriginal Australia and its legal regime (*Schnierer & Egan, 2012: 57).

In recognition of the disconnect between Aboriginal and non-Aboriginal understanding of 'commercial', the NSW Aboriginal Land Council (ALC) called for a new category of Aboriginal 'subsistence fishing', in addition to the newly proposed and subsequently adopted category of 'cultural fishing'. Their submission argued that cultural fishing was restricted to resource use for social gatherings, while the subsistence fisher would have increased allocations to feed incapacitated (including unemployed) members of the community. This would involve selling the catch to community members below market value and would not be classified as commercial and would not require a commercial fishing licence (NSW Aboriginal Land Council, 2009). Similar systems are in place elsewhere in Australia and in New Zealand and Canada (Hawkins, 2004).

Academic research with Yuin fishermen on the NSW far south coast found the same frustrations (Edmunds, 2008). Tensions arising from the distinction made between cultural and commercial fishing are a recurring theme in fisheries and broader marine estate management.

Sweeney Research (2014) provides a very contemporary snapshot of Aboriginal connections with the NSW marine estate that refreshingly goes beyond resource use (Table 7).

[17] Recent Native Title determinations have identified commercial fishing as a continuation or modernising of cultural tradition

Table 7: Contemporary Aboriginal resource use of the NSW marine estate (Sweeney Research, 2014)

ACTIVITY	FREQUENCY	COMMENTS
Fishing	daily or weekly, or as little as monthly	Cultural/subsistence
Pipi gathering	weekly basis	Cultural/subsistence (traditional food source (north))
Diving/catching/harvesting lobsters and abalone	several times per week	Cultural/subsistence (traditional food sources (south)
Camping	few days or for months at a time	Social
Swimming, walking	Daily or several times a week	Health and wellbeing
Family and community gatherings	Various, depending on occasion	Social (gatherings for occasions/celebrations, NAIDOC, Native Title meetings, birthdays, reunions, funerals
Youth surfing events	every three months on average	Recreational
Bush-tucker gathering	Seasonally/sporadically	Social - important community/family event [getting back on Country, practising traditions, transferring knowledge]

2.8.1. Connection through the market economy

PROFESSIONAL FISHING: Figures held by DPI Fisheries for 2014 show that 28 Aboriginal people are registered as commercial fishers, either through their own business or working for another business.[18] This figure suggests a decline from only three years ago when 37 were registered as commercial operators (Schnierer & Egan, 2012). The in-depth study by Schnierer and Egan (2012) on Aboriginal participation in commercial fishing showed that in 2012, Aboriginal commercial fishers held 2.7% of the total shares available in all the share management fisheries, which is proportionally consistent with the percentage of Aboriginal people in the NSW population. The main technologies used are beach hauling, netting from boats, handlines and hand gathering. The majority are in the Estuary General Fishery (EGF) and Ocean Haul Fishery (OHF), with minimal participation in the other five commercial fisheries. None were in the abalone or lobster fishery despite a long history of harvesting the former, especially on the far south coast (Cruse, et al., 2005).

The figures could be an underrepresentation as participants in the research indicated that many Aboriginal fishers were not registered in the commercial sector because they were operating in the OHF as crew members, and were not required to hold a commercial licence. A few Aboriginal commercial fishers were also under the impression that Aboriginal people were exempt from holding a commercial licence in some fisheries, especially those related to hand gathering, and therefore were not reported as commercial

[18] Some Aboriginal fishers may not identify as Aboriginal.

operators or recording catch data (Schnierer & Egan, 2012). Some Aboriginal fishers have been known to operate without a commercial licence because they cannot afford it or in defiance of what they consider to be an unjust governmental process.

Information on Aboriginal fishing history from interviews conducted by Schnierer and Egan (2012) are consistent with that collected by most other researchers discussed in Section 2.4. They all show that Aboriginal participation in all commercial fisheries was much higher before they became Share Management Fisheries in the early 2000s.

A number of partnership programs were developed under the NSW Indigenous Fishing Strategy, including the establishment of the Wagonga Rangers who have been involved in controlling the spread of the Pacific Oyster infestation in Wagonga Inlet; the establishment of the South Coast NSW Aquaculture Aboriginal Corporation (SCAAC); the development of an Aboriginal oyster farm enterprise; the Wollongong Aquaculture Aboriginal Corporation undertaking a feasibility study for a fish farm at Shellharbour; and two abalone aquaculture developments planned for Port Stephens Research Station and South Pindimar, all of which have demonstrated social benefits to those who participated (Hunt, et al., 2009). The SCAAC involved all coastal LALCs and supported establishment of a number of enterprises, but none have survived and the organisation is no longer functioning. One of the barriers to successful enterprise development has been cultural obligations to give away product, which impinges on profit margins (G. Bowley, pers. comm. 4/6/2015). Obligatory sharing is also a common issue faced by Aboriginal community based businesses (MacDonald, 2000). There is currently one Aboriginal run aquaculture enterprise in NSW - the Bodalla Local Aboriginal Land Council has an aquaculture permit over two leases in Wagonga Inlet at Narooma (G. Bowley, pers. comm. 4/6/2015).

Interestingly, Schnierer and Egan (2012) shows the profile of the Aboriginal commercial fisher to be male between 28 and 60, from a family who was likely to have fished for generations and almost always fished in his own Country. This suggests that even in the commercial sector, Country and family play an important role, strengthening debates around the legitimacy of current administrative and legal distinctions between commercial and cultural fishing as the quote below shows;

> *Over 90% of the Aboriginal commercial fishers interviewed for this project indicated they gave some of their commercial catch to their local Aboriginal communities. Estimated community contributions ranged from 5% to 20% of annual catch, with the average contribution being approximately 9.8%. These figures vary slightly depending on the season and community demand. Only 10% of active Aboriginal commercial fishers indicated that they do not contribute to their local community* (Schnierer and Egan, 2012: 3).

ECOTOURISM, CULTURAL TOURISM: this is an important avenue for cultural revitalisation and for educating the wider public on Aboriginal culture and history**.** There are no reliable figures on Aboriginal participation in ecotourism and cultural tourism businesses related to the NSW marine estate, but it is likely to be low. One example with a focus on the marine environment is an Aboriginal cultural cruise on Sydney Harbour that includes presentations of traditional hunting and fishing techniques and the marine cultural associations of local Aboriginal tribes and clan groups.[19]

[19] http://www.aboriginalaustralia.com.au/

On the far south coast, Eden LALC used to run cultural tours and activities from their cultural centre at Jigamy Farm near Eden. The marine environment and its resources form a significant element of the commentary, particularly traditional harvest of abalone. Part of the tourism experience was watching and participating in the manufacture of bark canoes, spears and other fishing gear.

Aboriginal people are employed in many tourism enterprises outside Aboriginal run businesses. For example, many of OEH's Discovery Rangers are Aboriginal, who give well-received commentary on Aboriginal connections with the marine environment during tours of coastal parks. Tours in Kuringai and Bobbin Head National Parks can include visits to magnificent rock engravings depicting marine fauna. Tours to Montague Island Nature Reserve, five nautical miles off the coast at Narooma, include information on pre-contact Aboriginal history of the island and frequently employ Aboriginal guides. In fact the Aboriginal history, the cultural and spiritual significance and the Aboriginal name for the island *Barranguba* feature strongly in tourist advertising. Some of the marine parks also contract Aboriginal Discovery Rangers to do cultural interpretation.

The arts and craft sector is also an important avenue for Aboriginal economic development. Much of contemporary Aboriginal artwork on the NSW coast features marine and coastal themes, reflecting ongoing cultural and spiritual ties to sea country. The arresting saleable poster for the Aboriginal owned Booderee National Park depicts a traditional sea country story involving stingrays (Figure 20).

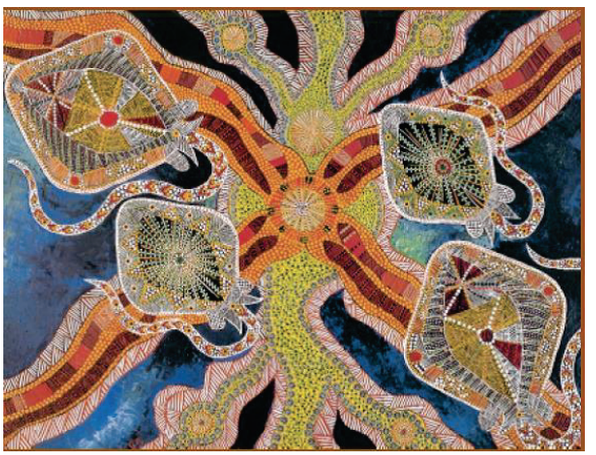

Figure 20: Stingrays in Booderee National Park poster

On the north coast, Aboriginal artist Nigel Stewart expresses his cultural knowledge through paintings which he sells. In Figure 21 the two big dolphins on each side of the painting represent the elders of the tribe, watching over the younger and smaller dolphins in the middle which represent the younger generations and their lifecycle. The two different colours on the dolphins represent the different tribes, and in the middle of the painting these two tribes come together to make one big tribe (*ngullingnah* = together).

The dot circles in this painting represent the water which is the life of all Earth, a major component (elixir) of every living thing on the Earth and it must be kept clean. Without water nothing can survive. The fish (Jalum) are very important also as this is the food source for the dolphin. Just like them we need food to survive and fish is a major component of our diet, it's all part of the same food chain. The spirit inside

wadjung, the dolphin, shows that human and dolphin through Aboriginal connection are one in the same – we look after them and they look after us. It's all part of the respect we have for our beautiful country and the species that have been here since the dreamtime. [20]

Figure 21: Artwork from the north coast depicting a traditional dolphin story.

Shell decoration work is a rare example of women's activity based on marine resources from which modest incomes can be earned (Figure 22). South coast Aboriginal women from La Peruse down to Eden practice the art of shell decoration which is an important part of their cultural identity and requires specific knowledge on the behaviour and ecology of the small gastropods used in decoration (Nash, 2012). It is likely that this practice did not commence until the 1950s although shell was traditionally used for decoration and trade (Nash, 2012). Aboriginal people moved frequently between coastal reserves from La Peruse to Wreck Bay and Eden seeking employment, and over time the skills and knowledge have been transferred.

Jean Carter tells Ann Nugent in 1978 how to make shell jewellery;

> *' … There used to be a few of the ladies used to make shell work. Used to be Auntie Rose – that's Auntie Nell's mother. Yes, she was really old. They used to get the little ricies, you haven't seen those little shells. She used to make the necklace and the earrings to match, you know, a little brooch. They were beautiful. There was another lady next door – Mrs. Chapman. She was bedridden. She used to do a lot of shell work. She used to spread the big blanket on the bed, you know, and they'd sort all the shells out on that. Get the ricies. They're very tiny. That'd be a sort of a pastime, you know. It takes a lot of work to get the shells and to find them and then thread them. If you were going to sit on your beach and pick 'em, you'd fill up a matchbox. That's the complete necklace. It would take you probably all day. And usually you can't get 'em all in one day. Then sometimes they're not there, you know. They are there all the time, but sometimes if there's a big sea. Then you have a little sharp needle with something on the end of it press, make the hole for fishing line. Used to sew a hook and eye in first, then you'd thread your needle. And you'd put' em different ways, too. You'd go into the back of the shell and then the next one you'd go on to the front of the shell … '* (AIATSIS, 1999).

[20] http://arakwal.com.au/nigel-stewart/

Figure 22: shell shoes made from tiny gastropods

2.8.2. Employment in government agencies

State Government agencies with direct responsibility for management and regulation of the NSW marine estate include the NSW Department of Primary Industries (Local land Services, DPI Fisheries, Crown Lands Division), NSW Roads and Maritime Authority (RMS), NSW Environmental Protection Authority (EPA) and the NSW Office of Environment and Heritage (OEH).

It is difficult to get accurate employment figures, as funding levels fluctuate according to external factors such as grant funding. Some Aboriginal people also choose not to identify as such. Some positions include working in the NSW marine estate as part of broader responsibilities, such as NSW National Parks and Wildlife Service (NPWS) Rangers working in coastal protected areas. Recent data obtained from relevant authorities is shown in Table 8.

Table 8: Aboriginal employment figures in NSW government agencies who manage aspects of the NSW marine estate.

Agency	Numbers of Aboriginal employees with responsibilities in the NSW marine estate	Specific areas
DPI Fisheries	3	Policy; compliance; marine parks
Local Land Services (LLS)	1	South East LLS catchment management along creeks, estuaries, etc.
EPA	0	
OEH	105	NPWS Coastal Branch (protected areas adjacent to the NSW marine estate)
RMS	6	

OEH's Aboriginal employment levels are considerably higher than other government departments. This reflects the synergies between nature conservation management, Aboriginal caring for Country, and the heritage components of the National Parks and Wildlife Act, administered by OEH. The latter not only

protects Aboriginal heritage, it allows for joint management of protected areas, opening the way for applying traditional ecological knowledge in protected area management. OEH has also had an Aboriginal Cadet Ranger programme for many decades and has policies for actively encouraging Aboriginal people to seek employment with the agency.

The regulatory nature of some positions in DPI Fisheries is likely be a deterrent to Aboriginal people for whom fining other Aboriginal people, especially family members, would be untenable. However employment in DPI Fisheries, particularly in the marine parks section, is likely to be attractive. The NSW Government has a strategy aimed at increasing employment and retention of Aboriginal staff across all sectors.[21]

2.8.3. Harvesting wild resources for subsistence purposes

Aboriginal communities tend to suffer relatively high levels of unemployment compared to the wider community, with concomitantly less money to spend on food. Hence fishing and collecting shellfish and other invertebrates is important for supplementing the diet. Aboriginal people spoke constantly of the subsistence value of the ocean's resources during interviews for previous studies on Aboriginal interests the NSW marine estate. There is also a strong preference for food harvested from Country rather than relying on shop bought foods, because it is healthier and better for you. Poor health suffered by Aboriginal people is often attributed to inability to harvest resources directly from the environment.

Subsistence harvesting is generally for self and for an extended family, and giving away, trading or selling of surplus (Sahlins, 1972). It continues to draw on cultural knowledge and traditions and is often still regulated through customary laws. These determine when, how and where fishing or collection can occur. In accordance with traditional socio-economic systems, the harvested/hunted products may enter the informal economy, through trade and exchange, obligatory sharing and financial transaction.

Schnierer et al (2002) documented the results of consultation with Aboriginal people in coastal communities in NSW, about the ways in which they utilise aquatic resources for food, medicines and in their daily lives. The research drew on the results of 150 questionnaires and multiple interviews with individuals, families and communities. They have provided a comprehensive list of invertebrate species targeted by contemporary Aboriginal fishers, demonstrating the diversity of species of interest, with most being harvested across coastal NSW (Table 9).

[21] http://www.psc.nsw.gov.au/sector-support/equity-and-diversity/aboriginal-workforce-development/aboriginal-employment-strategy

Table 9: Invertebrate species harvested by Aboriginal people, NSW (Schnierer and Faulkner, 2002).

(N – Northern, C – Central, S – Southern, M – Marine, E – Estuarine, F – Freshwater, C – Commercial, R – Recreational)

Common name	Scientific name	Region	Habitat	Fishery
Abalone	*Haliotis ruber*	C,S	M	C, R
Beach worm spp.	*various*	All	M	C, R
Bearded mussel	*Trichomya hirsuta*	All	M	
Bimbla cockles spp.	*various*	C,S	E	
Blue swimmer crab	*Portunus pelagicus*	All	M,E	C, R
Cobra	*Teredo navalis*	N	E	
Eastern king prawn	*Penaeus plebejus*	N,C	E	C
Edible mussel	*Mytilus planulatus*	All	M,E	
Freshwater mussel	*various*	All	F	
Greasy back prawn	*Metapenaeus bennettae*	All	E	C, R
Lobster spp.	*various*	All	M	C, R
Mud crab	*Scylla serrata*	All	E	C, R
Mud oysters	*Ostrea angasi*	All	E	
Octopus spp.	*various*	All	M,E	
Pacific oyster	*Crassostrea gigas*	All	M,E	
Periwinkle spp.	*various*	All	M, E	
Pipi	*Donax deltoides*	All	M	C, R
School prawn	*Metapenaeus macleayi*	All	E	C, R
Sea urchin	*various*	All	M	
Shrimp	*Machrobrachium sp*	All	E,F	
Squid spp.	*various*	All	M,E	C, R
Sydney cockle	*Anadara trapezia*	All	E	
Sydney rock oyster	*Saccostrea commercialis*	All	M,E	C, R
Tapestry cockle	*Tapes watlingi*		E	
Yabby	*Cherax destructor*		F	

Other studies provided information on wild resource use of specific areas and/or communities. For example a study of wild resource use at Wallis Lake, near Forster, noted that the majority of subsistence harvesting occurred in the marine environment rather than on land, and identified numerous species (Table 10) (Gray & Altman, 2006). These are generally consistent with results of a cultural mapping project with the Gumbaingirr people who include Wallis Lake in their traditional country (English, 2002).

Table 10: Species fished/harvested at Wallis Lake, north coast (Gray and Altman, 2006)

Species common name
Australian salmon
Abalone (blacklip)
Australian Bass
Black Drummer
Blue mussel
Blue swimmer crab
Bronze whalers
Cockle
Dusky flathead

Eastern rock lobster
Gould's squid
Hairtail
Jew Fish (Mulloway)
Leather jacket
Mud crab
Mullet
Octopus
Oyster
Periwinkles
Pipis
Prawns (King)
Prawns(School)
Sand whiting
Tailor
Trevally
Yellowfin tuna
Turban snail
Wrasse
Beach worm
Cartrut Shell (Dog Winkle)
Cobra Woodworm
Conjevoi
Eel
Razor fish
Skip Jack
Wirrah
Fluttering Shearwater
Pacific Black Duck [totem on far south coast]

Schnierer and Egan's in depth social analysis with the Minjungbal Aboriginal community has provided a detailed picture of subsistence fishing in the Tweed River region on the far north coast (Schnierer and Egan, 2011). This report found that cultural fishing in the Tweed region occurs on a regular basis, is predominantly shore-based and focussed around the estuary and adjacent coastal waters. The main gear types used are rods and handlines with nets, traps and spears used to catch some species. The most important cultural species comprised a mix of finfish and invertebrates; pipis are the most important, followed by mud crabs, sea mullet, tailor, sand whiting, dusky flathead, beach worms (for bait), Sydney rock oysters and yabby. These rankings were somewhat similar to the rankings given for the species that fishers go out to catch on a regular basis. However pipis, which are a culturally important species and are taken in large numbers, are not specifically targeted as much as other species. Sea mullet are also regarded as a culturally important species and are consistently targeted, but they are numerically less important than tailor or sand whiting (Schnierer and Egan, 2011).

Most of the cultural catch is consumed by the fisher and his extended family, with less going to the wider community (Figure 23). Most fishers ate only what they caught themselves, with some purchases from

Aboriginal commercial fishers from time to time. Some of the catch is also used for bait or bartered or traded for other goods and services within the community and some is sold. Some cockles were transplanted for future use. Most people fished less than 10 km from where they lived and the places where they gathered resources and the species they caught has not changed very much over the last few generations (Schnierer and Egan, 2011).

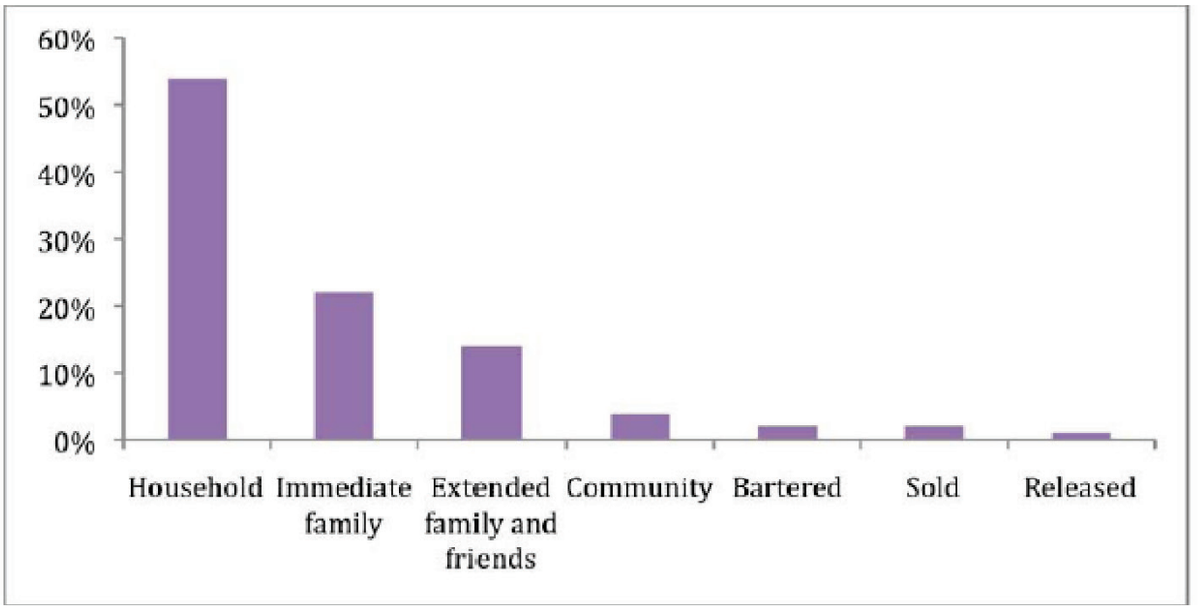

Figure 23: Graph of catch destination (Schnierer and Egan, 2011).

Over 30 log books completed by local Aboriginal fishers for a study of the cultural values of Batemans Marine Park produced a list of species utilised in the subsistence economy, although some data were too broad to be of much value (Table 11) (Donaldson & Feary, 2012).

Table 11: Species collected/fished, in and around Batemans Marine Park

Species collected/fished: Batemans Marine Park
Lobster
Octopus
Mud crab
Blue swimmer crab
Mussels (edible mussel)
Rock oysters
Bimbula (Sydney cockle)
Prawns
Beach worms
Conchs (large gastropods)
Mud oyster
Pipis (different species from north coast?)
Abalone
Periwinkles
Cunjevoi (bait)
Seaweed

Poddy mullet
All fish species
Flathead
Groper
Bream

Responses to survey questions about the frequency of fishing events and the destination of the catch reinforce views expressed in other discussions about the reliance of Aboriginal people on fish and shellfish catches as a significant part of their diet, and the importance of sharing catches with the extended family. Eighty-one percent of respondents noted that they fished either to supplement their family's diet or to share with their extended family especially Elders (Umwelt (Australia) Pty Ltd, 2005).

2.8.4. Harvesting wild resource for social/community purposes

The distinction between this and the above category is somewhat arbitrary but nevertheless important. As described previously most resources are shared, usually in the extended family and sometimes outside it if there is surplus. Harvesting specifically for social reasons is singled out here because of its relevance to access to certain key resource locations, and to bag limits for some marine resources such as abalone, pipis and sea mullet. These and a few other species appear to be culturally important in the context of community based social activities involving large numbers of people. In this sense they can be distinguished from subsistence harvesting.

Considerable quantities of food are required for large gatherings and traditionally, ceremonies were aligned with seasonal abundance of a certain prized resource such as bunya nuts, bogong moths, or a particular species of fish or shellfish. At Chikiaba Creek, near Ballina on the north coast, historical records from the early 1900s describe gatherings of up to 500 Worimi people during the rock oyster season (Pierce, 1978). Massive mounded oyster middens also occur at this location and radiocarbon dates from the base of the midden attest to 1,800 years of visits for ceremonial activities made possible by the abundance of a specific resource (Pierce, 1978).

Examples of modern equivalents of traditional ceremonies involving the community are funerals, weddings and football games. Increasingly, social gatherings are orchestrated by government departments such as for NAIDOC week, or to celebrate gazettal of an Aboriginal Place or a partnership agreement.

Community based activities are fundamental to the maintenance of Aboriginal culture and to its resilience in the face of modernism and external pressures. Harvesting resources for social purposes has been the issue most often raised in discussions on Aboriginal interests in the NSW marine estate. However, this is somewhat at odds with data collected which suggests most food stays within the extended family i.e. subsistence fishing.

A large amount of food is essential for these gatherings to proceed. Collecting and processing the food is an important social event that may involve many families over a several weeks and is important in its own right, by enabling social cohesion and the transferring of knowledge to the next generation. The social gatherings themselves are a cornerstone of Aboriginal identity and culture and may be more important

than the food resource itself. For example, coastal national parks frequently set aside places for cultural camping, where families get together to yarn and pass on knowledge and practice communal activities such as basket weaving, spear making, etc. The seafood may not necessarily have been harvested by the participants. Although this is often desirable, there may be nobody to do it, or no equipment, or there may be harvesting restrictions.

2.8.5. As original custodians with cultural responsibilities

Aboriginal people are connected to the NSW marine estate through their cosmology (totems, dreaming stories) and damage to the environment is akin to damage to humans (Rose, 1996). Many still feel a strong sense of cultural responsibility to look after it.

Application of traditional knowledge in natural resource management is gaining attention in Australia, especially in northern Australia, where western techniques for conservation of small ground dwelling marsupials have not been very successful (Woinarski, et al., 2007). Many Aboriginal fishers believe that non-Aboriginal fishers have unsustainable practices because they do not have sufficient understanding of the environment. A recurrent theme in the literature reviewed has been a desire by Aboriginal people to have the opportunity to augment western science with customary natural resource management practices, including the marine environment in NSW.

Because Aboriginal people generally don't travel much outside their own Country, their memories about changes to the marine environment over time at specific locations such as traditional fishing spots is a valuable repository on environmental change. Mobility is variable among coastal communities; most regional Aboriginal communities and families tend to not move, although outsiders may marry in, or out-of-town relatives may stay for extended periods. The situation is a little different around Sydney and other major cities, where there has been a history of people moving there for work, or through forced movement into reserves and children's homes. Places such as 'The Block' in Redfern have become the traditional home for those from elsewhere (Morgan, 2006).

Within and adjacent to the broader cosmological seascape are cultural places and heritage sites such as middens and fish traps that Aboriginal people, particularly elders and knowledge-holders, have a cultural responsibility to protect. They also have a responsibility to pass on knowledge about the significance and meaning of these sites and places. This is currently done in traditional ways, through story telling during culture camps and in modern ways, through mechanisms such as cultural awareness training, teaching Aboriginal culture in schools and involvement in management of the marine environment. Aboriginal people are adept at using modern technology for meeting their cultural responsibilities. For example, in management of cultural heritage in timber production forests on the far south coast, elders are often not able to into the field due to poor health. Instead, younger LALC members go out and take photos and then seek advice from elders based on discussion of the photos (Feary, 2007).

As part of custodianship responsibilities, people on the far south coast have expressed an interest in removing pest species, restocking certain areas, habitat restoration and closing off nursery areas to fishing (Smyth & Bahrdt Consultants, 2002).

Involvement in research is included in this category because Aboriginal people can potentially exercise their custodial responsibilities by having input into research design. As well as the many social science research collaborations referred to throughout this report and listed in Appendix 4, many Aboriginal communities participate in scientific research carried out by Universities or government. They are encouraged by environmental monitoring and research projects that have the capacity to combine traditional ecological knowledge with western science, a situation of mutual benefit to the environment, Aboriginal people and western science.

Two-way exchange of ideas benefits researchers in facilitating data collection whilst Aboriginal people may have their capacity built to become researchers themselves. Collaborative research can facilitate trust in research outcomes which can accrue to management agencies.

2.8.6. Engagement with government agencies

Consultation

Consultation with government agencies and participation in committees, working groups and the like has evolved as a major avenue for Aboriginal people to connect with the NSW marine estate. These are a potentially very important mechanism for influencing government policy and putting forward an Aboriginal perspective into government thinking. Schnierer and Egan (2012) list an impressive number of consultative forums and processes aimed at encouraging Aboriginal input into fisheries management (Schnierer & Egan, 2012, pp. 28-29 Table 7). Aboriginal groups and organisations have also made submissions to various government reviews, for example the marine parks audit and the commercial fisheries review.

All marine parks have Advisory Committees with one or more positions for Aboriginal community representation and some marine parks have a separate Aboriginal Advisory group e.g. Batemans Marine Park.

The Ministerial Fisheries Advisory Council (MFAC) has been established to provide the Minister for Primary Industries with high-level strategic policy advice relating to fisheries resource management. Aboriginal cultural fishing interests are represented on the MFAC through a voting member with expertise in Aboriginal cultural fishing. The Aboriginal Fisheries Advisory Council has been established under Section 229 of the FM Act to provide strategic level advice to the Minister for Primary Industries on issues affecting Aboriginal fishing interests. AFAC will continue to play an important role in the development of cultural fishing policy as well as exploring commercial opportunities for Aboriginal communities associated fishing activities[22]

Management Advisory Committees were established under the FM Act for all commercial fisheries. These had Aboriginal representative positions but Schnierer and Egan (2012) note that only 17% of Aboriginal commercial fishers felt that their voice was heard, while 83% felt they do not have a voice in the industry and that they are poorly understood. These committees are in the process of being replaced by a new system.

[22] http://www.dpi.nsw.gov.au/fisheries/aboriginal-fishing/afac

Agreements and partnerships

Cultural resource use agreements (CRUA) are being developed for several marine parks (see Section 2.1), described as;

> *Cultural Resource Use Agreements are to be developed where eligible Aboriginal people seek cultural resource use of fisheries resources within a marine park which cannot be achieved through the establishment of special purpose zones for cultural resource use or through the issue of event-specific (i.e. one-off) permits, including where fishing access to a marine park sanctuary zone is sought* (Marine Parks Authority, 2010, p. 14).

Oral history research and cultural mapping was undertaken for Cape Byron Marine Park (Eco-connections, 2009, 2010). This arose from the strong relationship the Arakwal people have with marine park staff and a Memorandum of Understanding developed in 2007.

For the Solitary Islands Marine Park, oral history and cultural mapping has also been conducted with both Aboriginal and non-Aboriginal people (Johnstone and Malcom, 2013).[23] A project funded by the NSW Environmental Trust involved establishing a comprehensive monitoring program for Aboriginal cultural heritage sites in the marine park, employment of local Garby people and development of several education programs (Marine Parks Authority NSW, 2008). A partnership between the Gumbaynggirr People and the Marine Parks Authority was also established to manage Arrawarra Headland Special Purpose Zone and a conservation plan has been prepared for this highly significant Aboriginal site (NSW MPA and Yarrawarra Aboriginal Corporation, 2006).

A background paper for a CRUA was completed for Batemans Marine Park (Donaldson & Feary, 2012). Aboriginal consultation is commencing for development of a benefits and threats assessment.

A draft MOU was also prepared for Port Stephens-Great Lakes Marine Park and a strong recommendation from the Garoowa Sea Country report was provided for its implementation;

> *The Marine Park Authority/ NSW government commences widespread negotiations with Traditional Owners, Custodians, Knowledge Holders-Worimi Nation and the local Aboriginal community in relation to the Garoowa (Coastal Sea Country) Memorandum of Understanding and formally accepts the MOU agreement to introduce better management practices within the PSGLMP* (Sutherland, 2011, p.87).

The Worimi Knowledgeholders Aboriginal Corporation has since developed a further draft of the MOU and a draft CRUA for the Port Stephens-Great Lakes Marine Park (Peter Gallagher, DPI Fisheries, pers. comm. 4 Aug 2015).

[23] http://www.coastalconference.com/papers.php

Overall, the marine parks have demonstrated a high degree of engagement with local Aboriginal communities.

Several Indigenous Land Use Agreements and other arrangements have also been established under the Native Title Act (1993), as shown in Table 12.

Table 12: Native Title determinations & agreements relevant to the NSW marine estate

NAME	LOCATION	STATUS AS AT JULY 2015
Bandjalang People (NSD6034/98 and NSD6107/98)	LAND AND WATERS Includes land and waters within Bandjalang People #1 and #2 consent determination areas [includes parts of Broadwater National Park, Bundjalung National Park, Tabbimoble Swamp Nature Reserve, Evans Head and surrounding hinterland]	Consent determination made on 2 December 2013. Customary rights to land and waters recognised.
Bundjalung of Byron Bay (Arakwal) Indigenous Land Use Agreement (ILUA) NIA2001/0	LAND AND SEA The area covered by the Agreement is in the vicinity of Cape Byron including the Cape Byron State Recreational Area, Tallows Beach and Fisherman's Lookout.	AREA AGREEMENT made on 28 August 2001
Gumbaynggirr People (NSD6054/1998)	LAND AND WATERS Nambucca Shire Council, Scotts Head and Nabucca Heads, Forsters Beach and Warrell Creek area.	Consent Determination made on 15 August 2014. Customary rights to land and waters recognised.
The Yaegl People (NSD6052/1998 and NSD168/2011)	LAND AND WATER Waters of the Clarence River, Clarence Valley Council	Consent Determination made on 25 June 2015. Customary rights to land and waters recognised
NI2006/004 - Bundjalung People of Byron Bay (ILUA 2)	LAND AND WATER Land and waters within Bundjalung People #1 and the Byron Bay Bundjalung People #3 native title applications	Area agreement for co-management & consultation protocol
Ti Tree Lake (Taylor's Lake) (ILUA 3)	LAND AND WATER 58 hectares is located about 6 km south of Byron Bay and includes an area known as Ti - Tree (Taylor's) Lake. Byron Shire Council	Area agreement for co-management & consultation protocol
NI2001/003 - Twofold Bay Native Title group ILUA	LAND AND WATERS East Boyd Bay Wharf. Bega Valley Shire Council	Area agreement for infrastructure

2.8.7. Through political activism

During previous studies Aboriginal people have expressed various levels of discontent regarding current management of the NSW marine estate, due mainly to restrictions on access and use of marine resources and a concomitant frustration that subsistence and commercial fishing and gathering are not accepted as a

fundamental right (Schnierer & Egan, 2012). It is not surprising that political activism is emerging, with recent establishment of the NSW Aboriginal Fishing Rights Group, which orchestrated recent peaceful protests and demonstrations, generating media interest. The text below slightly summarises media coverage of an event earlier this year;

> Aboriginal groups have called on both sides of New South Wales politics to formally recognise cultural fishing rights before the state election, saying without these legal protections Indigenous Australians are going to jail unnecessarily. In 2009, both houses of Parliament passed an amendment to the Fisheries Management Act that would allow Aboriginal people the right to unlimited fishing for personal and cultural purposes. But six years later that law has still not come into force in NSW and more than 250 Aboriginal people have been prosecuted. Some have gone to jail for illegal fishing and hundreds more have had negative interactions with fisheries officers.
>
> Kathryn Ridge, a solicitor with Ridge and Associates, defends Aboriginal people on the NSW south coast charged with illegal fishing. She has labelled the situation a "criminalisation of cultural practices". "For example they might get a fine for $500. If they don't have the money to pay the fine, they might find that their drivers licence is suspended, they might find they do a bit of jail time to discharge that debt," she said. "I don't think any Australian would support locking people up for getting a feed of fish."
>
> **Reports of conflicts with Fisheries officers**
>
> At a recent workshop held at the Illawarra Aboriginal Corporation in Wollongong, members of the local Aboriginal community talked about their cultural, customary and legal right to fish.
>
> The participants at the workshop spoke of conflict with fisheries officers and complained they were being harassed when they were at the beach. Lennie Wright from the Yuin nation on the south coast described an incident when he was swimming with his children and a fisheries officer demanded to search his car for abalone or, as he calls them, abs. Mr Wright refused to allow the officer to search his car, and the police were called. Upon questioning by the police officer, Mr Wright said he did not have abalone in his car. "The police officer said to the fisheries officer: 'I've got no grounds to stand on, nothing to stand on, I can't search his car for something you haven't seen put in there'," he said. Mr Wright believed he was targeted because he was Indigenous.
>
> In 2011, the Department of Primary Industries (DPI) introduced an interim policy which gave Aboriginal fishers double the bag limit and the capacity to catch up to 10 abalone per day.
>
> Mr Wright said it made it more difficult when fishing for his own family of seven as well as looking after his elders who could no longer get down to the beach. "We're the only ones who can feed them properly and if we don't do it, they're not going to get it," he said. Mr Wright also said the interim policy was confusing. In the six years where the legal protection for Aboriginal cultural fishing has been sitting in limbo, there have been more than 500 interactions like this between fisheries officers and Aboriginal people.
>
> Ms Ridge said it was prohibitively expensive for people to mount a Native Title defence in court.
>
> Ms Ridge said in one of the cases she defended in Batemans Bay, the DPI and Fisheries NSW pulled out when it became obvious they would lose. She believed it was so they could avoid setting a legal precedent that would have strengthened the protections for Aboriginal cultural fishing. It costs between $80,000 - $100,000 to mount a Native Title defence.

NSW lagging behind; failure to make national principles law

In order to avoid these costs and prosecutions, all states and territories signed up to the National Indigenous Fishing principles in 2007.But while other states formally enshrined this in law, NSW is still lagging behind (The World Today. Jennifer Macey 19 Mar 2015)

CHAPTER 3

IDENTIFYING BENEFITS

3.1. Introduction

This section explores the meaning of benefits, how MEMA currently defines the term and identifies categories of Aboriginal benefits. As emphasised throughout this report, Aboriginal people have a perspective on benefit that spans a very long time and is centred on use and the connections and cultural identity associated with use (Figure 24).

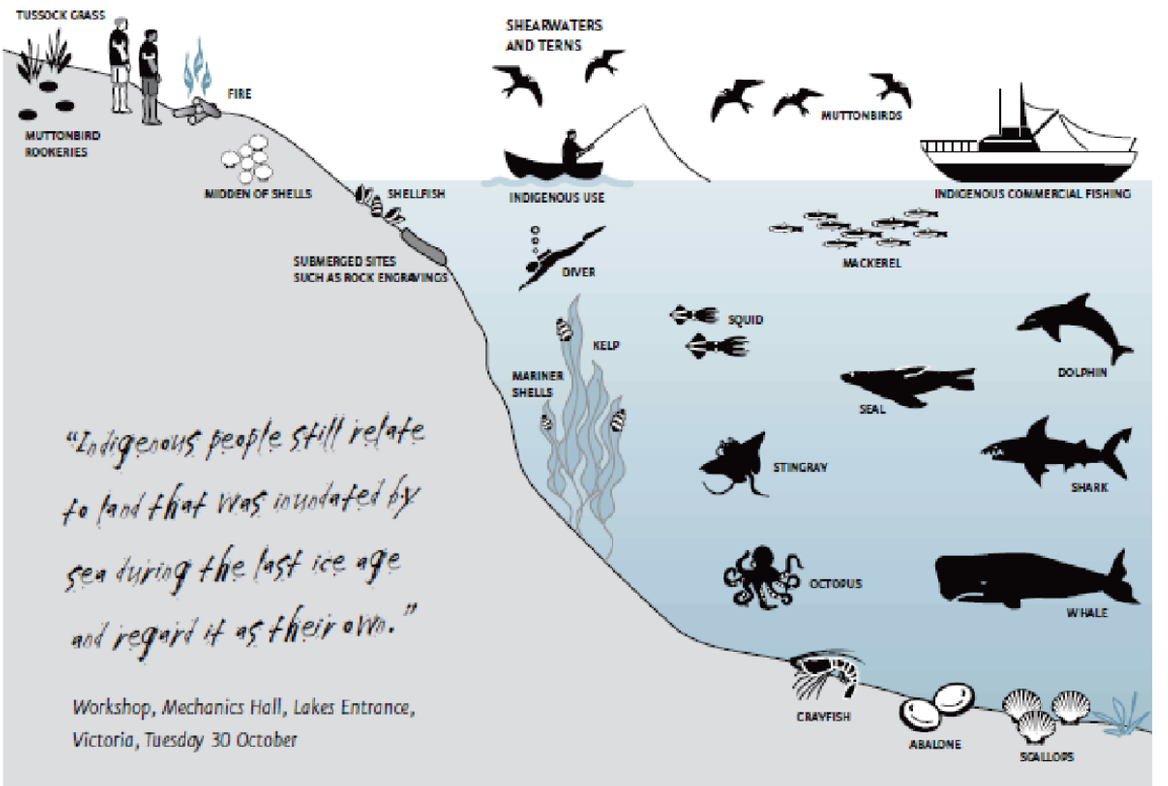

Figure 24: Aboriginal perceptions of the marine environment (Smyth & Bahrdt Consultants, 2002).

3.2. Defining benefits

The term 'benefits' and its corollary 'value' are vague terms, although a number of typologies exist to help provide more detail (Stolton & Dudley, 2015). Most definitions of benefit/value depend on the context in which they are being assessed e.g. economic theory, social science research, etc. There is no common language or understanding across government departments and many terms are used interchangeably e.g. benefits = values = assets = significance.

MEMA has determined that 'benefit' has the same meaning as 'value', which is defined as;

Community value – the term used by the *Marine Estate Management Act 2014* for 'community benefit'.

Community benefit *- anything that contributes to the wellbeing of the community. There are three separate categories of community benefits: economic, social and environmental benefits. Many community benefits are based on what people think is important (what they value). A community benefit of the marine estate could be:*

- *swimming at the beach,*
- *boating in an estuary,*
- *doing something as a hobby (e.g. fishing, kayaking, surfing, bird watching, etc.),*
- *running a business (e.g. whale watching business, charter fishing, commercial fishing, etc.),*
- *clean waters and marine biodiversity.*

For the purposes of this project, *community wellbeing* is re-defined as *Aboriginal community wellbeing*, but does not exclude individual wellbeing.

Wellbeing is defined in many different ways and there is no standard definition. The Australian Concise Oxford Dictionary describes well-being as '*a state of being well, healthy, contented, etc. '.* In their investigation of the impacts of abalone management on Indigenous interests, Umwelt (Australia) Pty Ltd (2005) defined wellbeing as;

- Resource access
- Rights
- Employment
- Social justice
- Community viability

This characterisation of wellbeing has an important application in a benefits and threats analysis.

3.3. Benefits of the marine estate to Aboriginal communities

Critical review of heritage databases and the literature, which in many cases incorporates the views of Aboriginal people, suggests that the benefits Aboriginal people derive from the marine estate are multi-layered and nuanced. In the first instance, they cannot easily be divided into the categories of social, economic and environmental because Aboriginal society today, as in the past, does not make these distinctions, having a more holistic and integrated worldview instead. Table 13 proposes five main categories of benefits of the NSW marine estate to Aboriginal people.

Table 13: Benefits of the NSW marine estate to Aboriginal people

Benefit	Subcategories	Description
Environmental	Natural environment as cultural landscape; nature and culture are inseparable	• The Aboriginal worldview is that a healthy and functioning environment with sufficient and healthy resources is critical for human wellbeing, including spiritual wellbeing – nature and culture are inseparable and healthy Country means healthy people. The environment provides Aboriginal people with a sense of identity, place and purpose.
Heritage/Cultural	Continuation of cultural traditions/practices/knowledge associated with resource use (intangible cultural heritage)	• Knowledge about the natural environment and resource availability passed down orally through generations. • Customs and technologies associated with management; harvesting /hunting, processing and allocation of resources. • Use of marine organisms in cultural practices such as in burial sites, or in ceremonial use. • Traditional knowledge regarding use of certain plants and animals for medicinal purposes.
	Marine resources	• Fin-fish, molluscs and crustaceans throughout the marine estate, are a significant component of the diet of coastal Aboriginal communities. Some species are considered 'culturally iconic' e.g. abalone on the NSW south coast and pipis on the north coast
	Tangible cultural heritage	• Middens, art sites with depictions of the marine environment, fish traps, items of material culture, etc. which demonstrate prior custodianship and use, and links to contemporary culture.
	Religious /spiritual places and landscapes (intangible benefits)	• Aboriginal religious beliefs that underpin cultural traditions and behaviours, including use of marine resources, – totems, creation stories, etc.
	Practices influenced by white contact	• Written and oral records of Aboriginal interactions with the marine environment depicting a mix of traditional and western cultures. • Historical records of Aboriginal culture and society associated with the marine environment, including commercial fishing • Shared and exchanged knowledge of Aboriginal and non-Aboriginal people about the marine environment
	Post-contact [historical] tangible and intangible heritage	• Post-contact sites of resource gathering and/or associated communal activities, e.g. campsites, meeting places • Oral and written records describing environmental change and change in fish and invertebrate ecology
Social	Community and individual wellbeing	• Maintaining cultural practices associated with resource use and management. • Participating in collaborative management of resources and the natural environment. • Keeping culture alive through intergenerational knowledge transfer such as story telling. • Being able to get out on Country and access resources. • Public recognition and acceptance of Aboriginal traditions and practices • Community is healthy and viable

	Practices maintaining social cohesion	• Fishing and gathering that involves the entire community, such as community gatherings for funerals, or NAIDOC week. • Resources are shared and traded throughout communities according to cultural norms • Teaching and learning occurs across generations. • Cultural identity is affirmed through practising and talking about cultural traditions and beliefs, including application of traditional ecological knowledge
	Recreation	• Surfing, swimming, snorkelling, boating, beach-walking, play
Economic	Business Employment	• Commercial and charter fishing and aquaculture industry. • Employment in a related business or government department or non-government organisation. • Ecotourism, arts and crafts based on use of materials and knowledge associated with the marine estate NB: Minimal benefits as at July 2015.
	Subsistence economy	• Some resources given away to the extended family and community elders by Aboriginal commercial fishers. • Barter, trade and exchange within the local community including financial transactions.
Aspirational	Partnerships (CRUAs, MOUs,) Recognition of rights Improved natural environment Ownership (Native Title, ILUAs)	• Greater participation in management of the NSW marine estate. • Greater recognition of rights as traditional owners (inside and outside native title). • Greater recognition of the cultural and subsistence importance of the marine environment. • More economic involvement through employment and business development. • More access into share management fisheries. • Improved environment, fish stocks, habitat protection, pollution control. • Power through ownership e.g. successful native title, joint management of marine parks, community control of some areas. • Improved relations with relevant authorities. • Food security.

3.3.1. Environmental benefits

Western societies in general and western capitalist economies in particular, as well as Christian religions tend to see nature and culture as separate identities (Vershuuren, et al., 2010). By contrast, pre-industrial indigenous societies all over the world perceive nature and culture as an integrated and interdependent, and their religious and spiritual beliefs are founded on this worldview (Wright, 2013). These values and beliefs persist today, including among Indigenous Australians, despite the influence of dominant western societies and the impact of colonisation. Section 2.6 has described the importance to Aboriginal culture of protecting the seascape with its associated resources and spiritual connections

Thus, in the context of defining the benefits that Aboriginal people derive from the marine estate, environmental benefits cannot be easily teased out from other benefits. In other words procuring food for consumption meets a basic need but distribution of some of that food to other members of the community strengthens social bonds, whilst the act of procuring tests knowledge systems keeping them viable and relevant. For the purposes of this report, an environmental benefit is perceives the natural environment as a cultural artefact. By understanding the natural environment as an element of culture, it becomes possible to comprehend the significance of a healthy marine environment in NSW to Aboriginal people. Figure 25 and the quote below illustrate the strength of the connections between Aboriginal people and the natural world (including its resources);

> *In the Aboriginal worldview we often say that we're part of the land and the land is part of us. It can't be one or the other. Whether its red dirt, Mallee scrub, golden beaches or arid plains, land has a different meaning – but one story. Without it, our mob gets sick* (State Aboriginal Land Council website).

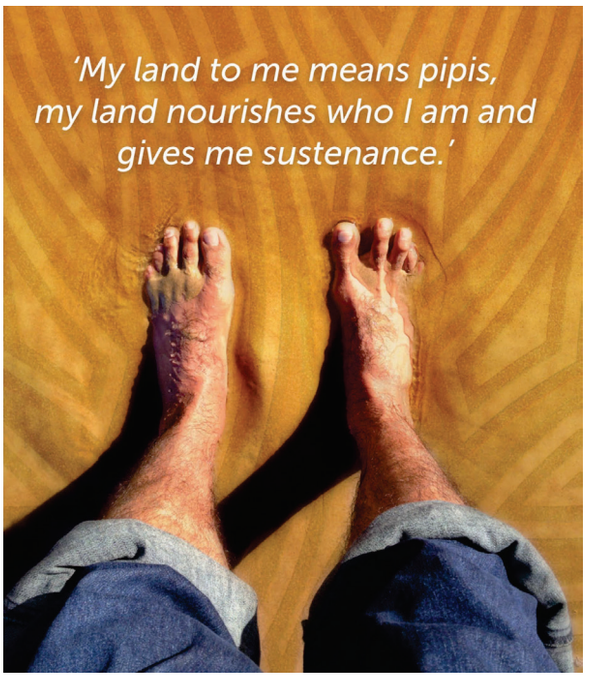

Figure 25: Image showing links between people, resources and environment (Source: State Aboriginal Land Council website)[24]

3.3.2. Heritage benefit

A heritage benefit is a benefit attributed by Aboriginal people to the NSW marine environment estate because it connects the past with the present and provides direction on future opportunities. A heritage benefit relates to both tangible and intangible cultural heritage as defined by OEH (see Section 2.3). Heritage benefits associated with the NSW marine estate are primarily concerned with physical evidence (archaeological sites), continuation of activities such as resource use in order to maintain associated traditions and knowledge, and spiritual connections. 'Cultural fishing' is an activity reflecting the heritage benefits of the marine estate.

For the purposes of this project, heritage benefit can be envisaged as being roughly equivalent to cultural benefit in its broadest meaning (see Section 2.3). A heritage benefit can be localised, relating to a small number of people or a specific location or it can be a storyline about an Ancestral Being, connecting certain features of the landscape. It can be more widespread, relating to the NSW marine estate as a whole or to a common technology or a particular resource.

A heritage benefit has a time depth, a sense of the past informing and shaping the present and the future. The benefit is associated with traditions or practices arising from a long history of custodianship and occupation. Reports and publications on Aboriginal interests in the marine estate all contain numerous accounts of Aboriginal resource use that that demonstrate how the past gives legitimacy and meaning to the present;

> *Our middens are proof enough that our people lived off the sea and estuaries. The traditional gathering methods, and foods, are still used today. The seasonal foods are still collected and eaten*

[24] http://www.alc.org.au/about-nswalc/our-mob-our-future.aspx

by us, and the areas where our ancestors gathered foods are still used today, by us and our children, without damage to the ecosystem (Wagonga LALC in Smyth & Bahrdt Consultants (2002)).

It is important to note that heritage benefits are not homogenous across coastal NSW. There is considerable variation from north to south, due to both cultural and natural factors. For example a totem in one region may have little cultural significance in another or a technique for resource harvesting may vary considerably along the coastline. Physiographic differences are also important, such as the type and extent of rocky shore platforms, which determine presence and abundance of a range of invertebrate species used by Aboriginal people.

Where heritage relates to place, it can be multi-layered, involve the sea and adjacent land, contain archaeological sites and have a contemporary use. An example is Red Point, bordering a Sanctuary Zone in Jervis Bay Marine Park and surrounded by Jervis Bay National Park (Figure 26). The headland contains midden deposits and was used historically as a fish-spotting place by local Jerrinja fishermen who also used to fish there. The area contains biologically important seagrass beds and is culturally important as a traditional resource collection and camping place. Today Red Point is owned by the Jerrinja LALC as a result of a successful claim under the NSW Land Rights Act. They use it for community gatherings and are keen to establish a camping ground to bring in revenue for their community.

Figure 26: Red Point and Carama Inlet, Jervis Bay Marine Park.

To Aboriginal people the land and sea are indivisible; so conserving cultural heritage also requires a holistic approach and cooperation among different agencies responsible for management of terrestrial and marine environments. Furthermore with the exception of fish traps, most tangible cultural heritage is adjacent to, rather than in, the marine estate.

Pre-contact heritage is described in detail in Section 2.6.1 and Section 2.3 outlines how cultural heritage can be protected and preserved. OEH works with local Aboriginal communities to identify and protect sites of particular significance such as large shell middens, art sites and fish traps in relation to maritime culture. Funding for Aboriginal communities to conduct their own recording and site protection works is sometimes available through various States and Commonwealth grant schemes but would normally require endorsement by OEH. In some cases developers can be required to avoid certain sites and/or undertake mitigation works, as outlined in OEH's guidelines for protecting Aboriginal heritage.[25] Local Land Services has been working with LALCs in developing Land and Sea Country plans that may identify heritage sites or places requiring attention (Donaldson, et al., 2010).

Aboriginal heritage associated with the marine environment is not confined to the period before white contact. As shown in Section 2.7, the post-contact history of Aboriginal connections with the marine environment is particularly rich, showing adaptation of new technology into traditional practices and a continuation of traditional practices well into the 20th Century. For example, Aboriginal people continued to make their own nets, but did not use traditional materials (Egloff, 1981). When they dived for abalone they used wet suits and air compressors (Cruse, et al., 2005)and adopted metal fish hooks very soon after white settlement(Attenbrow, 2010). Conversely, white settlers learnt much about the marine environment from Aboriginal people who freely passed on their knowledge.

Much of the heritage of the post-contact period sits within oral knowledge – generally in two or three generations removed from today. Aboriginal people tend to draw on this knowledge when asked about the importance of the marine environment, providing information about resource gathering places, cultural traditions or ecological knowledge, as documented by researchers such as Schnierer and Egan (2011); (Byrne & Nugent (2004);Faulkner (2000); English (2002) and Sutherland (2011).

3.3.3. Social benefits

Social benefit relates to how the whole community benefits from the NSW marine estate, as opposed to the individual or extended family. Social benefits arise from activities involving the community (more than one family) coming together for a specific reason, including the gathering of resources. It can be envisaged as a modern equivalent of traditional ceremonies attended by hundreds of people where knowledge information and goods were traded and exchanged (see Section 2.6.4).

Social benefits arising from community gatherings include;

- Information about cultural practices and traditional ecological knowledge is often passed on to the next generation during resource collection, as are the creation stories and totemic knowledge.

- People are revised and revitalised by being on Country and connecting with their Country, even if they do not originally come from that Country. They are able to assess the state of the environment

[25] http://www.environment.nsw.gov.au/licences/ACHregulation.htm

and of the resource and compare it with earlier times and consider what management is most appropriate.

- People are practicing skills and traditions that are important to cultural identity and social cohesion.

- Resources are shared, traded and bartered within the community which builds mutual obligation and strengthens social ties outside the extended family.

Resource collection for social gatherings is available through permits allied for and issued under section 37 of the Fisheries Management Act and clause 12 of the *Marine Estate Management Regulation 2009*. This allows resource collection beyond the current Fisheries and MPA regulations. Permit applications are made on a one-off basis.

Community and individual wellbeing

For Aboriginal people, health and wellbeing is enhanced by continuing important cultural traditions which in turn facilitates the retention and transfer of cultural knowledge. One of the strongest messages from interviews conducted with Aboriginal people during previous studies is the importance of fishing and shellfish gathering and other communal activities to community and individual health and wellbeing. The importance of cultural resource use to health and wellbeing was emphasised in the State Land Council's response to the discussion paper, *Cultural Fishing in NSW*, developed by DPI Fisheries (NSW Aboriginal Land Council, 2009). Practicing culture is also one of the indicators used by the Commonwealth Government for measuring Aboriginal wellbeing (Steering Committee for the review of Government service provisions, 2005, Taylor, 2005).

Being in a position to make decisions about management of the marine estate and its resources has also been found to be critically important for health and wellbeing, as it is empowering. The majority of previous studies identify Aboriginal people's strong aspirations to have a greater say in how the marine environment is managed, through a range of administrative and legal mechanisms.

Lessons have been learnt from decades of actively involving Aboriginal people in management of land. In Australia this has occurred primarily in protected area management through joint management of national parks and creation of Indigenous Protected Areas (Smyth, 2001; Gilligan, 2006).

Recreational

The literature is clear that Aboriginal people do not consider their fishing to be recreational. However, as citizens and coastal dwellers, Aboriginal people benefit from the recreational opportunities provided by the marine estate. Many Aboriginal communities live at beautiful locations on the coast, surrounded by beaches and lakes, such as at Wreck Bay on the NSW south coast, which contains one of the best surfing breaks in NSW (Figure 27).

Figure 27: Summercloud Bay, home of the Wreck Bay Aboriginal community

Aboriginal children and adults swim, surf, dive and snorkel in the ocean (Figure 28). There are also recreational elements to social gatherings where seafood is offered.

Figure 28: Aboriginal surfing school

3.3.4. Economic benefit

Aboriginal people currently derive very little economic benefit from the NSW marine estate in the context of the western market economy for a range of reasons (see Section 2.8) relating to changes in management of the marine estate that have not always given adequate recognition to the impacts on Aboriginal people.

The strength and passion of Aboriginal people's argument for economic benefit rights is due in part to historical legacies. As discussed in in Section 2.7, unlike subsistence practices on land, which had largely ceased by the late 1800s due to dispossession, Aboriginal people continued to sustain themselves from the marine environment for a much longer period and successfully entered into the market through commercial fishing for much of the 20th Century (Bennett, 2007; Cane, 1998).

By contrast the economic value of wild resources obtained from the NSW marine estate to the non-market (subsistence) economy is considerable. There are numerous references throughout the literature, to the economic value of marine resources in terms of not having to pay for them;

> *The economic side of going out and getting your own bait, digging up yabbies, going and getting pipis, going and getting sea worms, blood worms whatever it is, it's a big saving. If you were to go and buy stuff like that, you'd spend a fortune before you'd even wet a line. Even to buy fish, I don't think I've ever bought fish in my life and I can honestly say that because I live right next to the river. I fish practically every day. It's a big saving. If you were going to head out and buy half a dozen fillets of flathead you're looking at a lot of money.*
>
> *Bartering has been carried on for so long, without money changing hands. Just say I'm feeding my family with fish and someone else might be feeding us with bananas in the family or like that and it fits into that sort of culture.*
>
> *I take crabs around to the uncles and they give me a bottle of chilli because they don't get out that much and [fish]. But if you go and give it to them, they can sit there and make some chillies and all that sort of stuff* (Schnierer and Egan, 2011).

The value of wild resources harvested by Aboriginal people in the Wallis Lake catchment is estimated to be between $468 and $1,200 per adult per annum (Gray and Altman, 2006). Expressed as a proportion of the gross income of the Aboriginal population, the value of the wild resources harvested is between 3 and 8%. While this appears to be only a relatively small proportion of total income, it is a significant contribution to the dietary intake of a relatively poor community. For those households with a very active and successful harvester, the value of wild resources consumed constitutes a far higher proportion of household income than is the case when total estimated return is averaged across the entire community. Virtually all of the resources are used for personal consumption (including own household) or distributed to family outside of the harvester's own household (Gray and Altman, 2006).

David Campbell noted the non-market value of economic resources in his study of economic issues for Aboriginal people in NSW marine parks but did not provide a non-market valuation, pointing out the many different techniques and difficulties of doing so (Campbell, 2006).

3.3.5. Aspirational benefits

During previous consultations, Aboriginal people have frequently and consistently expressed the view that benefits of the NSW marine estate for their wellbeing have not been realised. They have gone to great length to point out the reasons for this, being primarily to do with perceived shortcomings and failures in current governmental systems and have articulated their aspirations for a better future. While some progress has been made towards some aspirations, the literature suggests there is still a long way to go (see Section 2.4.). It seems appropriate therefore, to identify aspiration as a benefit of the marine estate to Aboriginal people.

Many of the aspirations raised are not confined to the NSW marine estate but reflect the socio-economic position of Aboriginal people more generally. Hence their solutions do not lie with NSW marine estate management alone but in broader responses to Aboriginal disadvantage in Australia. However, there is the potential for NSW marine estate management to provide leadership at a State and national level in regard to addressing Aboriginal disadvantage and moving towards maximising community wellbeing (as per the MEMA vision statement (MEMA, 2013)).

Aspirations come in many forms. For example, in their response to the discussion paper on cultural fishing, the State Aboriginal Land Council sought recognition of the 'subsistence fisher'. It also aspired to a greater involvement of Aboriginal people in a range of potential initiatives such as capacity building, marine park ranging, habitat management, stock enhancement programs, employment, and education (graduate positions within the industry (NSW Aboriginal Land Council, 2009).

Schnierer and Egan (2011) articulated the aspirations of Tweed Head fishers;

> *All participants were hopeful that recognition of Indigenous cultural fishing in the NSW FM Act and subsequent establishment of the NSW AFAC would result in culturally appropriate management measures being put in place for cultural fishing. They felt that these developments could be built on by ensuring that the aspirations of their community were incorporated into decision-making processes at the state level. Establishing local Indigenous fisheries governing body for the Tweed region, guided in turn by a community developed charter on cultural fishing, could facilitate such a process* (Schnierer and Egan 2011, p.36).

The literature review suggests that aspirations of Aboriginal people in regard to the NSW marine estate fall into seven main categories, with some degree of overlap.

1. <u>Ownership of sea and resources/recognition</u>

That Aboriginal people want to be recognised as the continued unbroken custodians of the land and seas, including the NSW marine estate, with a fundamental right to determine the proper management and utilisation of the nation's natural resources, is the overriding message from consultations, and reflects the aspirations of the Indigenous population across Australia.

In some cases there is a desire for total devolution of power over what happens in particular areas. For example, the Wallaga Lake community have stated a desire for another Special Purpose Zone to be established at Wallaga Lake and for the community to have control over access and management (Donaldson & Feary, 2012). In other situations, having a greater say in management and planning is the aspiration (see below).

2. Economic development

The desire for economic opportunities in relation to the NSW marine estate was a very strong message from the previous consultations, including in commercial fishing, aquaculture, ecotourism and associated enterprises. Economic development should receive government support and be culturally appropriate.

An associated aspiration is opportunities for training and development of business skills, and a sharing of the benefits (Smyth 1993).

3. Consultation in in regard to all aspects of the marine estate and coastal planning more widely.

For coastal Aboriginal communities to maintain their connection with the NSW marine estate there must be an increased commitment from all levels of government to provide genuine opportunities for engagement and involvement in planning and management – at a scale that recognises the diversity of Indigenous interests.

4. Prevent environmental degradation

Concern about the condition of the NSW marine estate, such as stock depletions, water pollution, pressure from accelerated coastal development, and effects of climate change were frequently raised during consultations. Many Aboriginal communities had proposals for addressing these issues.

5. Special recognition in regard to access to resources and resource collecting places

The fundamental importance of access to and use of marine resource to the health and wellbeing of Aboriginal individuals, families and communities is currently recognised through several mechanisms, such as s.37 permits under the FM Act and Special Purpose Zones in marine parks. However, Aboriginal people in some places would like their Aboriginality to receive further recognition, by the lifting of all restrictions (Sutherland, 2011).

The fact that fishing and resource gathering by Aboriginal people is knowingly done in contravention of current regulations is testimony to a widely held belief of Aboriginal people that they should not be subject to the same rules as non-Aboriginal people (see Section 2.8.7.).

6. Greater participation in management and decision making (beyond consultation)

The literature has numerous references to Aboriginal concerns over lack of opportunities for genuine participation in environment and resource management, including findings of the NSW Independent Scientific Audit of Marine Parks (Beeton, et al., 2012) and the Marine Estate Community Survey (Sweeny Research, 2014). While this is the case overall, there are local variations, for example, the Arakwal people consider they have a high level of participation in management of the Cape Byron Marine Park (Eco-connections, 2010).

An associated aspiration is a greater respect for and application of traditional knowledge in biodiversity protection and resource management. While there is a desire to share this knowledge, correct protocols must also be followed in the process (Andrews, et al., 2006).

7. Greater understanding of Aboriginal culture by agencies and non-Aboriginal people

Aboriginal people would like non-Aboriginal people and government agencies to have a better understanding of Aboriginal culture and society. This was raised during previous studies; primarily in relation to government agencies and legislation failing to acknowledge such issues as the land and water as being a single entity, the cultural significance of some marine species, the importance of the marine environment for cultural identity, and the long history of sustainable resource use and management practised by Aboriginal people (see Section 2.3).

Elements of the past inform the future, but culture and cultural benefits are constantly changing and adapting. They should not be seen as being frozen in an imagined past of tradition, because this potentially undermines the legitimacy of cultures practised by Aboriginal people in the present. In order not to confine Aboriginal people to some kind of idealised previous era, a paradigm of contemporary Aboriginal society being a product of tradition, colonial history and modernity, with considerable regional variation is appropriate.

CHAPTER 4

THREATS

4.1. Defining threats

Once values/benefits have been identified, it is possible to investigate phenomena that may impact negatively on these values; these are often termed 'threats'. MEMA defines threats as;

> ***Threat*** *- a broad activity, event or process that poses a potential level of risk to community wellbeing. Threats often affect multiple benefits and each benefit is invariably affected by multiple threats. Threats have also been called 'risk sources' in some publications.*

Table 14 proposes a list of threats to the benefits described in Chapter 3 and identifies their causes. Some threats are not restricted to the NSW marine estate but are related to broader issues at state and national levels. However, a specific response could help contribute to addressing the broader threat.

Table 14: Proposed threats to benefits of the marine estate to Aboriginal people

Benefits	Sub category	Threats	Cause
Environmental			
	Natural environment as cultural landscape	– Environmental degradation can impact on spiritual connections – Inadequate understanding of Aboriginal worldviews of culture and nature as a single entity – Damage to totemic or culturally significant species – Damage to sacred or Dreaming places embedded in natural world – Management regimes that don't recognise Aboriginal values	– Habitat damage or loss. – Unsustainable use. – Marine pests – Pollution and run-off – Climate change – Lack of awareness in management agencies – Lack of application of international best practice
Heritage/Cultural			
	Marine resources to sustain life and culture	– Depletion of marine resources – Contamination of resources – Restrictions on access to resources	– Habitat loss – Unsustainable use. – Marine pests. – Pollution and run-off. – Climate change. – Poorly designed protected areas
	Continuation of cultural traditions and practices and transfer of traditional knowledge (intangible cultural heritage)	– Damage to places associated with cultural practices and traditions – Loss or diminution in cultural practices and knowledge – Unable to access places associated with cultural practices and traditions	– Inadequate documentation about these places and/or knowledge-holders not consulted. – Older generations in Aboriginal communities are very concerned that younger generations are not interested in their culture, being too influenced by modernism. – Story tellers may be unwell and unable to pass on knowledge

Benefits	Sub category	Threats	Cause
			and practices. – Community is not functioning well and younger generation is not respectful. – Access issues may be due to land tenure (private land), or no public road, or socio-economic factors such as lack of a vehicle. – Restrictions on access to resources due to government regulations. – Culturally insensitive compliance enforcement practices.
	Tangible cultural heritage	Damage or destruction to recorded and unrecorded sites.	– Lack of appropriate heritage assessments and/or Aboriginal consultation. – Sea level rise and erosion of sand dunes, etc. – Illegal or poorly conditioned/managed coastal development. – Public ignorance and/or lack of respect for Aboriginal heritage.
	Religious /spiritual significance	– Totemic and culturally significant species not adequately protected. – Loss of traditional knowledge, such as creation stories and dreaming tracks – Cultural landscape damaged.	– Authorities unaware of significance of totemic species. – Inadequate regulation to protect significant species – Disruption to intergenerational transfer of knowledge (see culture/heritage above). – Environmental damage (see 'Environmental' above.
	Practices influenced by white	– Insufficient documentation	– Tendency to focus on

Benefits	Sub category	Threats	Cause
	contact	– Inadequate recognition that Aboriginal culture is dynamic and changing.	'traditional' aspects of Aboriginal culture rather than as an ongoing, dynamic culture.
	Post-contact [historical] tangible and intangible heritage	– See above. – Mismatch between Aboriginal and non-Aboriginal worldviews.	– See above – Research not undertaken in a collaborative way
Social			
	Community and individual wellbeing	– Disadvantaged socio-economic circumstances in Aboriginal communities. – Unable to maintain cultural knowledge and practices, including resource use. – Loss of cultural identity.	– Colonial history; lack of recognition of rights and interests as original custodians; poor education, health and housing, high unemployment. – Reduced community capacity to get out on country practice culture, and to pass on cultural information – Factors affecting access to resources and places where traditions are practised and knowledge is transferred (see 'heritage/ cultural' above).
	Practices needed to maintain social cohesion	– Restrictions on resource collection for social events – Restrictions on access to camping/ collecting places where social events occur. – Inadequate recognition of rights and interests in marine estate. – Imposing modern laws over traditional systems for resource management and use. – Reduced community capacity to undertake cultural practices i.e. knowledge is not being transferred, elders are unwell, etc.	– Legislation – Stock depletion. – Native Title over marine environment is still a relatively unknown quantity. Non-native title rights have recently been recognised through 'cultural fishing' etic in NSW – Aboriginal people point to the poor record of white settlers in resource management and inadequate understanding of traditional systems of resource

Benefits	Sub category	Threats	Cause
			management. – See above for factors relating to reduced community capacity
	Recreation	Same as for the wider population	
Economic			
	Business Employment	– Inadequate recognition of rights to benefit economically from commercial fishing. – Lack of recognition of right to benefit commercially in the informal economy. – Lack of community and individual capacity, expertise and training. – Lack of government or industry support for Aboriginal commercial fishing or other businesses such as ecotourism. – Declining wild stock. – No suitable places to establish aquaculture. – Inadequate employment opportunities in government jobs associated with the marine estate	– Relates to Native Title rights - benefit sharing processes not established. – Cultural fishing definition not reviewed. – Socio-economic disadvantage. – Commonwealth and State Indigenous fishing strategies, tourism strategies have not been fully effective thus far. – Professional fishing may not be sustainable into the future? – Lack of available land/water for Aboriginal enterprises. – Employment tends to short-term using external grant funding
Aspirational			
		– Inadequate consultation and participation and opportunities for engagement and involvement in planning and management at a scale that recognises the diversity of Aboriginal interests. – Failed Native Title claims. – Inadequate opportunities to develop commercial enterprises. – Reduction in natural resources or too much competition.	– Lack of capacity of government agencies; reluctance of some Aboriginal communities to engage. – Unable to meet criteria for Native Title; disagreements among different claimant groups – Aboriginal commercial

Benefits	Sub category	Threats	Cause
		– Lack of commitment from all levels of government to improving Aboriginal socio-economic position. – Lack of recognition of the special place of Aboriginal people as original custodians with special rights and interests and concomitant changes to regulations. – Lack of understanding of the customary/ informal/ subsistence economy and how it works. – MEM Act does not currently have a legal mechanism for joint or co-management of marine parks with local Aboriginal communities. – Poor relationships with government authorities	enterprises may need to acknowledge the family/community element that affects profits. – Some marine resources are depleted in numbers and need strong controls; others should give greater preference to Aboriginal people over non-Aboriginal people – Recognition as original custodians varies across the state, but Aboriginal people are seeking greater acknowledgement as a high level – The distinction between the market and non-market economy is an artificial one as far as Aboriginal people are concerned but it has not been recognised by authorities, although it has been recognised in recent native Title claims – The original Marine Parks Act did not include legal mechanisms for joint management. – Prosecutions for illegal fishing; poor communication and engagement; absence of a common vision.

4.2. Comprehending threats

The literature review identified a range of issues raised by Aboriginal people in the context of their interests in the NSW marine estate. These issues were used to distil out the proposed threats described in Table 14 above and are discussed below.

4.2.1. Rights as traditional custodians of the marine environment are not adequately recognised

This is a pervasive issue and refers to recognition of rights in many spheres, from the right to fish without breaking the law, to common law rights in Native Title and international convention and best practice, through to education of the public about the importance of the marine environment in the history and culture of coastal Aboriginal communities. A major concern is that Australia is lagging behind other countries in recognition of legal rights in relation to commercial benefits arising from customary resource use;

> *Australian government's approach to Indigenous customary and commercial fishing rights stands outside developments in other Commonwealth countries. Commercial fishing in particular represents an opportunity for Indigenous people to more fully realise their right to economic self-determination. However, the current state of Aboriginal and Torres Strait Islander participation in commercial fisheries is minimal to non-existent; Australia's Indigenous people have not enjoyed the same economic development in this regard as Indigenous people in Canada and New Zealand. The focus in Australia remains on customary rights, and even these are tenuous in comparison to other countries* (Durette, 2007, p.1).

4.2.2. Regulations and access restrictions do not adequately accommodate rights or needs

Introduction of cultural fishing and cultural resource use into legislation accommodates Aboriginal customary fishing practices to some extent but many people do not like having to get a permit to conduct what they consider to be a basic right. There have been suggestions such as issuing seasonal permits for regular social events. In other cases, specific resources needing increased bag limits for a certain community in a certain location have been identified.

The cultural fishing regulation is currently being developed as a means for better accommodating rights and needs in line with the definition of cultural fishing in the FM Act. With the introduction of the regulation a reduction in request for permits is likely, as the new bag and possession limits will better accommodate daily cultural needs.

4.2.3. Consultation inadequate

Poorly-timed, uncoordinated or duplicated consultation by different agencies has occurred in the past (Department of Environment and Conservation, 2005). In recent years opportunities have been afforded for Aboriginal people to have a voice in regard to specific policy development such as the IFS and on an ongoing basis through Marine Park Advisory Committees and AFAC. State-wide consultation with

Aboriginal communities was undertaken by DPI Fisheries in 2014, seeking input to assist with furthering development of the Aboriginal cultural fishing regulation.

However, despite best intentions, many Aboriginal people do not know what is going on or consider that they have not been accurately represented by another community member or are not being listened to.

> *While some Aboriginal commercial fishers have been part of advisory committees, port meetings and made submissions, they nonetheless feel their voice has been, and continues to be, overlooked or poorly understood* (Schnierer & Egan, 2012:58).

Aboriginal communities operate in such a way that information intended for the entire community may not get beyond the extended family of the representative who is attending the consultative forum. This is exacerbated by situations where there is interfamily divisiveness. Hence, Aboriginal people generally consider that the best way to get feedback is to allow Aboriginal people to use their own systems and family contacts to seek their opinions on a matter.

It is also clear that in some instances the same people have been consulted on NSW marine estate management since 1993 and have continued to voice the same concerns. Understandably, they feel that their time and effort in attending meetings has been to no avail when little appears to have changed.

4.2.4. Inadequate employment opportunities

Aboriginal people have a strong interest in natural resource management because of its synergies with 'caring for Country', but employment opportunities, especially for permanent jobs, is limited. Concern was raised that due to low levels of education, Aboriginal people may need capacity building to make them job-ready.

4.2.5. Lack of economic development opportunities and constraints to economic development

There is widespread concern among coastal Aboriginal people that they are denied benefit from the commercialisation of marine resources that once belonged to them, and without their consent (Smyth, 2001b).

This topic was the subject of considerable discussion in all previous studies and the focus of recent research, *viz.* (Schnierer & Egan, 2012). Lack of government effort in developing Aboriginal commercial fishing and aquaculture interests was identified as a major concern.

In NSW, there have been numerous attempts to establish commercial ventures in aquaculture but most have failed, with only one still operating (see Section 2.8.1). Aboriginal communities express concern over business failure, acknowledging that sometimes it is due to cultural reasons such as demand sharing, but insufficient government support in community capacity building is also a factor.

Schnierer and Egan (2012) identify a range of concerns regarding barriers to economic development and involvement in commercial fishing which relate to establishment of the share managed fisheries;

> *Aboriginal commercial fisher's engagement in the commercial sector has been difficult since share allocation was enacted. Aboriginal commercial fishers described a range of factors which disadvantaged them during share allocation and which continue to disadvantage them in current structural adjustment processes. Many Aboriginal commercial fishers feel they were not issued the correct shares at allocation as a result of two factors unique to Aboriginal commercial fishers. The first was that many Aboriginal commercial fishers did not report their catch because they believed that, as Aboriginal people, they were exempt. The second factor was that prior to allocation they fished seasonally in multiple fisheries. As a consequence many Aboriginal commercial fishers have been allocated shares that are below the minimum share holding required for an endorsement. These issues have disadvantaged fishers throughout structural re-adjustment processes and are issues that could have been better remedied if the true value of their participation and needs were better understood and acknowledged* (Schnierer & Egan, 2012, p. 58).

Cruse at al (2005) also refers to the high cost of licences, especially in the abalone industry which effectively excludes people of lower socio-economic status. Many Aboriginal people also believe that regulations on access, gear, bag and catch limits are too onerous.

As discussed in Section 2.8 exclusion of commercial activities from the legally sanctioned 'cultural fishing' has raised much concern. The informal or non-market economy continues to be an important socio-economic driver in Aboriginal communities where unemployment is often high and sharing and trading resources is commonplace and integral to community harmony. To be potentially breaking the law by selling a portion of the 'cultural catch' ranks as a major concern.

4.2.6. Loss of cultural heritage (including biodiversity)

Many Aboriginal people are concerned about loss of tangible cultural heritage due to factors such as coastal development and sea level rise (see Section 3.3.2.).

They are also very concerned that cultural traditions and practices and the associated traditional ecological knowledge will be lost or diminished if they are unable to carry them out. There are many factors affecting the capacity to conduct cultural traditions, ranging from poor health of elders, to access restrictions on resources and resource collecting places.

As cultural heritage also encompasses the natural environment, concerns over environmental degradation and damage are relevant in this context;

> *Overfishing, especially of species normally accessed by Indigenous peoples such as taken off rock shelves such as abalone and offshore species such as bream, mullet and flathead* (Campbell, 2006, p. 9).

> *Population booms along coastal areas in New South Wales have affected marine systems and this is of growing concern for traditional custodians who are willing to work on solutions with government* (Sutherland, 2011, p. 7).

Slow down on the waterways as many Garoowa dolphins have been injured from boat propellers and watercraft. Dolphins need space to feed and look after their young, respect their needs. If you sit quietly on the shores you will see dolphins pass close by (Sutherland, 2011, p. 92).

Marine life depletion… Of particular concern for the North Coast Indigenous communities covered in this research is the fish and pipi population depletion, which is considered to be the result of excessive activity from professional rakers and fishers. These individuals feel this issue could be potentially managed by re-assessing and reducing commercial fishing quotas (Sweeny Research, 2014, p. 370)

4.2.7. Insufficient involvement in management and planning and decision making

Aboriginal people are concerned that they do not have enough say in management and planning and decisions are made that greatly affect their lives without them having any effective input. Aboriginal people as a rule, have no confidence in the government to manage the natural environment, given the legacy of the last 200 years. Understandably, they consider that more traditional forms of natural resource management could be more effective and are concerned that there are not enough avenues for this to happen; such as joint management of marine parks.

4.2.8. Inadequate understanding of Aboriginal worldviews

Lack of legal and administrative recognition of the connection between land and water is a concern;

Indigenous peoples do not distinguish between landscape and seascape, both being equally part of country. This contrasts markedly with the worldview, reflected in the Australian legal system, which perceives boundaries where indigenous conceptualisations provide a geographically integrated understanding of land, rivers, estuaries, beaches, reefs, seas, cays, seabeds and associated flora and fauna.....(Michael Dodson reporting to the United Nations Social and Economic Council's Permanent Forum on Indigenous Issues, New York, 2010).

Like all Aboriginal people, the coastal communities in eastern Australia are frustrated by the lack of understanding of, and respect for their culture, in particular the spiritual aspects. Aboriginal people do not separate land from sea, and the existing fragmented management, and inconsistent approach to land and sea tenure does not fit with Indigenous thinking (NSW Aboriginal Land Council, 2009).

At Jervis Bay in the late 1990s, local Aboriginal communities were being simultaneously consulted on Jervis Bay National Park (gazetted 1994) and Jervis Bay Marine Park (gazetted 1998). They were astounded to learn that the national and marine parks were managed by two completely different agencies under two different pieces of legislation. To confuse matters further, NPWS was discussing joint management of the national park, which goes to high water mark and excluded the adjacent marine park whose legislation currently has no legal capacity for joint management (S. Feary, pers. obs.)

4.3. Identifying consequence and likelihood

Table 15 is a preliminary evaluation of the consequence of the threat, and the likelihood of the consequence occurring. MEMA defines these terms as;

Consequence – the result of something happening, including a change in circumstances affecting objectives. It can be certain or uncertain and have positive or negative effects on objectives. A consequence can be expressed qualitatively or quantitatively.

Likelihood - the chance of something happening.

Appendix 8 describes the risk objective, definitions and levels of the consequences and likelihoods used in Table 15.

Table 15: Consequence and likelihood assessment against threats

Benefits	Sub category	Threats	Consequence	Likelihood
Environmental				
	Natural environment as cultural landscape	Environmental degradation can impact on spiritual connections	Moderate	Possible
		Management regimes that don't recognise Aboriginal values	Major	Likely
		Inadequate understanding of Aboriginal worldviews of culture and nature as a single entity	Moderate	Likely
		Damage to totemic or culturally significant species	Major	Unlikely
		Damage to sacred or Dreaming places embedded in natural world	Major	Possible
Heritage/Cultural				
	Marine resources to sustain life	Depletion of marine resources	Minor	Unlikely
		Contamination of resources	Moderate	Possible
		Restrictions on access to resources	Moderate	Likely
	Continuation of cultural traditions and practices and transfer of traditional knowledge (intangible cultural heritage)	Damage to places associated with cultural practices and traditions	Moderate	Possible
		Loss or diminution in cultural practices and knowledge	Major	Possible
		Unable to access places associated with cultural practices and traditions	Major	Possible
	Tangible cultural heritage	Damage or destruction to recorded and unrecorded sites.	Moderate	Almost certain
	Religious /spiritual significance	Totemic and culturally significant species not adequately protected.	Major	Unlikely
		Loss of traditional knowledge, such as creation stories and dreaming tracks	Major	Possible
		Cultural landscape damaged.	Moderate	Possible
	Practices influenced by	Insufficient documentation	Minor	Likely

	white contact			
		Inadequate recognition that Aboriginal culture is dynamic and changing.	Minor	Likely
	Post-contact [historical] tangible and intangible heritage	See above Mis-match between Aboriginal and non-Aboriginal worldviews	Minor	Likely
Social				
	Community and individual wellbeing	Disadvantaged socio-economic circumstances in Aboriginal communities	Major	Almost certain
		Unable to maintain cultural knowledge and practices, including resource use	Major	Possible
		Loss of cultural identity	Major	Unlikely
	Practices needed to maintain social cohesion	Restrictions on resource collection for social events	Major	Likely
		Restrictions on access to camping/ collecting places where social events occur.	Major	Likely
		Inadequate recognition of rights and interests in marine estate.	Moderate	Likely
		Imposing modern laws over traditional systems for resource management and use.	Minor	Almost certain
		Reduced community capacity to undertake cultural practices i.e. knowledge is not being transferred, elders are unwell, etc.	Moderate	Possible
	Recreation	Same as for the wider population	Minor	Rare
Economic				
	Business Employment	Inadequate recognition of rights to benefit economically from commercial fishing.	Major	Likely
		Lack of recognition of right to benefit commercially in the informal economy.	Major	Likely

	Lack of community and individual capacity, expertise and training.	Major	Likely
	Lack of government or industry support for Aboriginal commercial fishing or other businesses such as ecotourism.	Major	Possible
	Declining wild stock.	Minor	Unlikely
	No suitable places to establish aquaculture.	Minor	Unlikely
	Inadequate employment opportunities in government jobs associated with the marine estate	Moderate	Possible
Aspirational			
	Inadequate consultation and participation and opportunities for engagement and involvement in planning and management at a scale that recognises the diversity of Aboriginal interests.	Moderate	Possible
	Failed Native Title claims.	Moderate	Possible
	Inadequate opportunities to develop commercial enterprises.	Minor	Unlikely
	Reduction in natural resources or too much competition.	Minor	Possible
	Lack of commitment from all levels of government to improving Aboriginal socio-economic position.	Moderate	Possible
	Lack of recognition of the special place of Aboriginal people as original custodians with special rights and interests and concomitant changes to regulations.	Major	Possible
	Lack of understanding of the customary/ informal/ subsistence economy and how it works.	Minor	Possible
	MEM Act does not currently have a legal mechanism for joint or co-management of marine parks with	Minor	Almost certain

	local Aboriginal communities		
	Poor relationships with government authorities	Minor	Possible

CHAPTER 5

GAPS IN KNOWLEDGE

There is a sound knowledge of the relationship between Aboriginal people and the marine environment in terms of cultural associations embedded in the past and their contemporary manifestations at a state-wide level.

There is patchy knowledge of the views and aspirations of Aboriginal people in regard to the NSW marine estate. Although information can be easily extrapolated from some study areas, there is always a danger of obscuring important geographical variations. In particular, there is limited information on Aboriginal views on management of the marine environment in the Hawkesbury Bioregion. More work is also needed in the Twofold Shelf marine bioregion in regard to cultural resource use beyond abalone.

The study conducted by Schnierer (2011), for the Tweed River could be applied at several other critical locations. Rather than using log books, some other mechanism should be considered.

Because of the geographic variation in species used by Aboriginal people, development of a mechanism for making agreements at regional or Zone levels to take certain species at certain times of the year at certain locations, rather than using a permit system.

Further research into the commercial elements of 'cultural fishing' is desirable with a view to amending the current definition.

Research is needed to inform a strategy for the NSW Government to manage successful native title claims over the NSW marine estate, as these are likely to increase in the future and a consistent approach is needed. This could include investigating potential mechanisms for devolving management of a habitat/resource to a Native Title group.

There continues to be a discrepancy between the archaeological evidence and the oral history regarding the traditional role of abalone (see Appendix 7). More research is needed in this area.

Investigation into failure of past aquaculture ventures in NSW with a view to developing commercial community based operations is desirable. This should include a skills audit of community members.

Schnierer (2011) identified the following research needs;

- Research to identify the cause of the decline in numbers of pipis in the Tweed Region.
- Development of a research funding proposal to investigate and support the development of an Indigenous community fishing charter and cultural fishing management plan for the Tweed

- Development of a research funding proposal to expand research on cultural fishing to other Indigenous communities across NSW. [26]

Schnierer and Egan (2012) identified the following research needs;

- Continue working with Aboriginal commercial fishers to complete the data set on catch history, to build a complete baseline data set for NSW Aboriginal commercial fishers.

[26] Expand this to include cultural resource use more generally

CHAPTER 6

ABORIGINAL COMMUNICATION AND ENGAGEMENT

6.1. Introduction

The brief for this project requested:

> *…recommendations to inform future engagement approaches undertaken by the Authority to effectively engage the Aboriginal community in the review of the draft outcomes of the risk assessment and to inform the development of culturally appropriate management responses to priority risks.*

6.2. The value of consultation

Consultation with Aboriginal people on their interests in the NSW marine estate has been occurring since at least 1993, as part of government inquiries and projects, or in the context of participatory social science research. Consultation has been uneven across the coast. Some communities have been consulted numerous times, e.g. around Eden, while consultation with others has been limited or non-existent e.g. around Sydney. The level of consultation has also varied, from carefully constructed in-depth interviews focused on a particular issue such as fishing, while others have been more generalised. Still others have generated data of limited use due to methodologies used. Consultation around marine park management seems to have been particularly effective in gathering information and involving local communities, producing reports that are both culturally appropriate and empowering for the Aboriginal communities e.g. Garoowa Sea Country report (Sutherland, 2011).

Consultation processes, together with participatory research, have gathered a considerable amount of information on Aboriginal interests in the NSW marine estate, capable of informing development of government policy. From an Aboriginal (or anyone's) perspective, the effectiveness of any consultation is measured by the extent to which interests have been met, or, plausible reasons given as to why they haven't. In some cases, if the consultation process is respectful and culturally appropriate it can be an end in itself, especially for sections of the community who do not often have a voice, e.g. women. However, generally Aboriginal people have expressed a strong wish to go beyond consultation to active participation in marine estate management through mechanisms such as equitable partnerships. Generally, they see consultation as the first step in a longer and inclusive process as demonstrated by the classic model of citizen participation - Arnstein's ladder (Arnstein, 1969).

A review of the literature demonstrates that Aboriginal people's responses to questions asked of them have been fairly consistent over the last 20 years. Although some progress has been made with recognition of cultural use and cultural fishing in legislation, Aboriginal interests, aspirations, frustrations and concerns appear to have changed little. To those who have been consulted on one or more occasions, the apparent lack of progress may result in scepticism and an understandable reluctance to participate in further consultation.

It is interesting to observe that Aboriginal people have been more vocal and more assertive in regard to government control of the NSW marine estate than they have with government control over land i.e. state forests, crown lands and national parks. This is partly due to the enduring role of the marine environment as 'the commons' i.e. open to all, as compared to the land which, until the passing of the Native Title Act in 1993, was considered to 'terra nullius - belonging to no-one' prior to 1788. Another reason is that under pressure from Aboriginal people, land management agencies have over many decades developed good systems for Aboriginal involvement, that go well beyond consultation to employment, joint management and the like.

If the extensive literature on Aboriginal consultation is anything to go by, the hope for Aboriginal people is that consultation on the 'risk assessment outcomes and culturally appropriate management responses to priority risks' will lead, to not only a report that recognises and responds to Aboriginal interests but also to opportunities for a much enhanced involvement in management of the NSW marine estate.

6.3. Likely key community stakeholders

Key organisations/advisory bodies

- NSW Aboriginal Land Council
- Aboriginal Fishing Advisory Council
- NTSCORP
- National Native Title Tribunal

Regional/local community groups

- All coastal Local Aboriginal Land Councils [and regional Councils]
  - Batemans Bay
  - Bega
  - Bodalla
  - Cobowra
  - Eden
  - Illawarra
  - Jerrinja
  - Merrimans
  - Mogo
  - Nowra
  - Ulladulla
  - Wagonga
  - Birrigan Gargle
  - Jali
  - Tweed/Byron
  - Birpai
  - Bunyah
  - Yaegl (Yamba area)
  - Birrigan Gargle (Maclean area)
  - Grafton-Ngerrie (Grafton area)
  - Coffs Harbour
  - Forster
  - Karuah
  - Kempsey
  - Nambucca Heads
  - Purfleet/Taree
  - Stuart Island
  - Unkya
  - Awabakal
  - Bahtabah
  - Biraban
  - Darkinjung
  - La Perouse
  - Metropolitan
  - Worimi

- Wreck Bay Aboriginal Community Council
- Bundjalung Byron Bay Aboriginal Corporation (Arakwal) (Indigenous Land Use Agreement)
- Arakwal Corporation (Indigenous Land Use Agreement)
- Worimi Knowledge Holders Aboriginal Corporation
- Yarrawarra Aboriginal Corporation
- Walbunga Aboriginal Corporation
- Twofold Bay Native Title Group
- Marine parks advisory committees
- Aboriginal groups registered with OEH likely to have coastal interests

Families/individuals

Aboriginal commercial fishers
Families who do a lot of fishing and shellfish collecting e.g. Brierley, Mason, Stewart, Nye, Butler, Cruse, Jessop.
All Aboriginal people employed by DPI Fisheries and coastal LLS
All people who have participated in previous projects
Danny Chapman
Georgina Parsons
Neville Lilley
Field based OEH Aboriginal staff with coastal and /or offshore island protected area responsibilities
Relevant Aboriginal tourism operators and Aboriginal businesses
Wally Stewart/ NSW Aboriginal Fishing Rights Group

6.4 A proposed strategy for effective consultation

Issues to consider

1. The draft state-wide and Hawkesbury Shelf marine bioregion threat and risk assessment reports will be the first time Aboriginal people have had an opportunity to be involved in this process. They may consider that they have been brought in very late in the process, even if it is made clear that this report has benefitted from Aboriginal views documented during previous studies. There may still be anger and dissatisfaction. One option would be to rewrite and summarise this report so that it is 'reader friendly' and circulate it to Aboriginal communities for comment..

2. What is the consultation for? Is MEMA looking for agreement/endorsement or does it want full engagement and discussion with a view to major amendments if appropriate?

3. Who do the key stakeholders represent? How will you know?

4. Will people be renumerated to attend meetings?

5. How will participants know they have been listened to?

6. How will input be documented?

7. Will the presentation/ report be easy to understand and is it written in such a way that it invites debate and discussion?

8. Understand and respect the distinction between traditional owners and those whose association is more recent, e.g. result of being on an Aboriginal reserve – sometimes called 'new traditional owners'.

9. Some of the language used in MEMA related reports is not very suitable. For example, Aboriginal people have said previously that they don't like the term 'marine estate'. In my 30 years of working with Aboriginal people in land and cultural heritage management I have never heard these words used. Alternative words such as 'values' and 'significance' are much more familiar to Aboriginal people. The word 'benefit' is also unsuitable, as it sounds like something queued for at a Centre Link office. 'Stressors' is also jargon not likely to go down well with Aboriginal people.

10. Aboriginal people don't like to be called stakeholders;

> *However it is not really an appropriate term to use when talking about Aboriginal communities. We have a very long association with the land, with deep spiritual connections. This means we view ourselves as owners of the land in a very real and unique way. These bonds we have with the land are only poorly captured by the term Stakeholder* (ANUTECH Development International, 1998:8 in Feary (2007)).

Umwelt (2005) provide useful insights for a consultation strategy. Their report notes:

- LALCs do not represent everyone and can be slow in providing responses.
- Broadscale canvassing via newspaper advertisements is a good first step.
- Consideration could be given to setting up a small working group to progress the risk assessment and formulate management responses.
- Consultation should be as localised as possible and always involve face to face discussions where people feel comfortable about sharing ideas and aspirations and concerns.
- There is an ongoing distrust of DPI Fisheries in relation to the management of broader aspects of Aboriginal community fishing practices, involvement and exclusion – this may detract from consultation.
- Improved feedback mechanisms for input to the assessment process so that representatives of local Aboriginal communities can see how the information or ideas that they have provided have been used or adapted in the assessment and management process. Clearer feedback will give communities confidence that their effort in providing input is worthwhile.
- An ongoing participation program that allows regional communities to see the outcomes of their input before formal endorsement.
- Develop and discuss measures to enhance Aboriginal community participation in marine estate management as part of the consultation (beyond consultation)

A possible outline for a consultation strategy could involve;

1. Careful preparing of written material so it is easily read and understood, supported by an arresting visual presentation.
2. Broad awareness raising of DPI Fisheries' intention, through adverting in Koori News and Indigenous Times and State Land Council networks and through other government departments, etc. Some Aboriginal people may be coastal but no longer live on the coast.
3. Establish a system for documenting responses which will be mainly by email or telephone or people may drop into a local Fisheries or marine park office.
4. Send out the draft report to those who register an interest and any other groups/families likely to have an interest.
5. Based on the responses, identify suitable locations for 2-3 meetings in each bioregion to maximise attendance. Familiarisation with politics of local groups/families (good to have a local contact) is essential.
6. If funds permit, also employ a project officer (Aboriginal) to meet with specific groups, families or individuals to get their views and feedback.
7. Prepare an agenda, organise catering, make sure all key people can attend (have transport) Video each meeting and record all comments and feedback. Keep meeting informal and friendly, consider engaging a facilitator (preferable Aboriginal)
8. Make sure there is plenty of time for discussion, and respect cultural protocols – elders speaking, right food (no lentils).
9. Do a wrap –up at the end so that everyone is aware of what has or has not been achieved.
10. Send out notes from the meeting to all participants soon after the meeting.
11. Establish a working group to progress the management responses making sure it is not dominated by male fishers. It should include representatives from key groups and also individuals who provided useful and constructive information at the meetings.
12. Establish a mechanism for the broader community to received information on the working group's activities; a small newsletter could be useful.
13. Once management responses are drafted, circulate to all previously registered people and possibly hold further meetings.

7. CONCLUSION

The central concern of this project has been to identify the benefits of the NSW marine estate to Aboriginal people and to identify threats to these benefits. The process has been informed by a review of relevant literature sources and databases and the professional knowledge of the authors.

The literature is a mix of targeted studies with detailed information for a small area such as for a marine park, and/or for a specific activity such as fishing, and much broader scale studies. All have helped to build a picture of overall benefits and threats. These play out in different ways in different places for different communities, but state-wide benefits and threats can operate regionally and locally.

Understanding benefits and threats will be enhanced by future discussions with Aboriginal people themselves.

As with any government policy involving what was once Aboriginal-owned estate, the process is about much more than policy development. There are issues of social justice and rights to consider as well as respect for knowledge and protocols and above all, to make a meaningful contribution to addressing Aboriginal social and economic disadvantage in NSW.

In looking at the ultimate aim of the process of the marine estate reforms, that of improving overall community wellbeing, it is timely to reflect on the five elements of Aboriginal wellbeing presented back in Chapter 3 - resource access, rights, employment, social justice and community viability. If the benefits of the NSW marine estate are fully realised and the threats mitigated then it is not out of the question that Aboriginal wellbeing is an achievable goal.

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Appendix 1: Project brief

Fisheries NSW Research Proposal

Project Title

Literature review of the cultural benefits and uses of the NSW marine estate to Aboriginal people, and threats to those benefits and uses, to inform a risk assessment for the NSW marine estate at the state-wide scale.

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Commencement and reporting dates for research

Commencement date: 1 March 2015
Reporting date: 15 May 2015

Background

The NSW Government commissioned an Independent Scientific Audit of Marine Parks in NSW (Audit) in mid-2011 and concluded that management of the marine estate required changes to governance arrangements and policy objectives, particularly in order to reduce social conflict and improve effective management of coastal and marine resources beyond existing marine parks (Beeton et al. 2012).[27]

Consistent with Audit recommendations, the NSW Government implemented a new approach to sustainable management of the NSW marine estate, including all marine waters, estuaries and coastal areas and the State's six marine parks (NSW Government 2013).[28] The NSW marine estate is to be managed as a single continuous system for the greatest well-being of the community. This initiative is based on maximising current and future economic, social and environmental benefits.

This new approach includes a thorough assessment process, which will consider social (including

[27] Beeton RJS., Buxton CD., Cutbush GC., Fairweather PG., Johnston EL., Ryan R. 2012, 'Report of the independent scientific audit of marine parks in New South Wales'. NSW Department of Primary Industries and Office of Environment and Heritage: NSW.

[28] NSW Government. 2013, 'Government response to the Report of the Independent Scientific Audit of Marine Parks in New South Wales – A new approach to managing the NSW marine estate' NSW Department of Primary Industries: Sydney.

cultural), economic and environmental threats to "community benefits" in the context of the entire marine estate (see glossary of key terms in Attachment 1).

In response to the findings of the Audit, the Marine Estate Management Authority (the Authority) outlined its new approach to marine estate management via the release of *Managing the Marine Estate: Purpose, Underpinning Principles and Priority Setting* (the Principles Paper).[29]

The Authority has developed a 5-step decision making framework, in summary, these steps are:

1. identify key benefits and threats to those benefits that the estate provides to the NSW community;
2. assess and assign risks to those threats so that management efforts can be focused on the most important issues;
3. assess the adequacy of current management settings and alternative options for addressing priority threats;
4. implement the most efficient management settings; and
5. be accountable to the NSW community in terms of monitoring the effectiveness of management settings.

The risk assessment represents steps 1 and 2 in this process. The purpose of the risk assessment as set out in the *Marine Estate Management Act 2014* is to: identify threats to the environmental, economic and social values (also termed "community benefits") of the marine estate; assess the risks associated with those identified threats; and to inform marine estate management decisions by prioritising those risks according to the level of impact on the community benefits derived from the marine estate (see glossary of terms in Attachment 1).

Part of the new approach to managing the marine estate includes early and effective community engagement. The authority commenced this engagement with the NSW community and visitors by surveying their views on the marine estate. The Marine Estate Community Survey (Sweeney Research 2014[30]) identified key environmental, social and economic values and benefits derived from the NSW marine estate. The survey emphasised that our coastline and marine waters support a wide range of values and commercial, recreational and cultural activities. The marine estate is also valued for the environmental benefits it provides, particularly habitats and species, including threatened plants and animals, as well as such ecosystem services as nutrient cycling and climate regulation.

Key economic values identified consist of the ability to derive income from the estate through commercial activities like shipping (trade), tourism, fishing, transport and aquaculture. The key social value identified is ready access to a healthy marine environment to enjoy now and into the future, otherwise referred to as bequest value. The survey results clearly indicate that the many millions of people who routinely enjoy living and recreating in the NSW marine estate place substantial value on the option of doing so. Recreational activities, traditional cultural use, education, science and research and coastal infrastructure can all generate both economic and social values.

Need

As a first step in assessing the risks to the marine estate, the risks to the environmental, social (including Aboriginal and heritage) and economic community benefits derived from the marine estate must be identified.

Background information on the threats and risks to the environmental benefits will be examined

[29] Marine Estate Management Authority (2013), *Managing the NSW Marine Estate: Purpose, Underpinning Principles and Priority Setting*, NSW Marine Estate Management Authority, November (http://www.marine.nsw.gov.au/__data/assets/pdf_file/0004/498604/Managing-Marine-Estate.pdf).

[30] Sweeney Research (2014). Marine Estate Community Survey – Final Report. Sydney, 395 pp.

separately by the Authority's member agencies. A process for assessing social and economic benefits and threats (including Aboriginal and heritage) that the community derives at the marine estate scale is required.

A threat and risk assessment framework technical paper has been developed by the Authority and is designed to:

- explain the process used to undertake the threat and risk assessment which is scalable from state-wide down to the geographic region that best aligns with the management problem being investigated;
- provide transparency and ease of understanding to community stakeholders;
- draw on a range of credible and accepted information sources; and;
- accommodates whatever level of analysis is 'fit for purpose', from broad, qualitative, 'scanning' assessments, down to in-depth quantitative analyses, where more detailed assessments provide necessary further information for decision making.

Risk assessment

1. The 'risk identification' step involves the development of a list of threats relevant to the NSW marine estate. The environmental benefits and threats to those benefits identified to date have been sourced from the Marine Estate Community Survey, local coastal Council engagement, the Great Barrier Reef Marine Park Outlook Report (2014) and the NRM Ministerial Council's Marine Biodiversity Decline Report (2008).

   Information collected on economic and social (including Aboriginal and heritage) benefits and threats to those benefits need to be further evaluated to provide a more thorough and comprehensive understanding of the benefits and threats in question.

   This will include:

   - collating and aggregating background information on the distribution and level of activity of social and economic benefits that interact with the marine estate (see tables in Attachment 3)
   - a statement of the threats to those benefits; and
   - the impacts of those threats over time to the benefit categories.

   The information collected is expected to be based mostly on publicly available information, with a maximum of approximately 1 page required per benefit and threat.

2. The 'risk analysis' step will be applied to all of the threats to the benefits (including Aboriginal and heritage benefits) listed in Attachment 3.

   An expert-led workshop will be held with a range of scientific experts to establish a consensus on the risks to these benefits of the marine estate. Workshop participants will be provided with information collected in the risk identification stage (Step 1 above). The outcomes from the workshop will be used to determine the level of risk that will contribute to a broader understanding of the issues and risks to the marine estate.

   The 'risk analysis' step does not form part of this proposal. However, attendance at the workshop will be required to provide background information to the experts to inform this step.

Project objectives

The objectives of the project are:

1. Collate and aggregate background information on the distribution and level of activity of the

key Aboriginal cultural values and uses that interact with the NSW marine estate at the state-wide scale (see yellow highlighted areas in Attachment 3 for the suggested list of Aboriginal cultural benefits and threats. See Attachment 2 for a map and description of the NSW marine estate).

2. Provide descriptions of the Aboriginal cultural heritage (including intangible values) of the NSW marine estate at the state-wide scale.
3. Provide descriptions of contemporary cultural values and benefits (i.e. marine resource access rights and needs to meet cultural requirements) to inform subsequent Cultural Resource Use Plans and analysis of alternative uses of the estate such as the impact of establishing no-take zones on the attainment of cultural rights and needs. In determining values and benefits advise the marine resources (e.g. fisheries) that are valued, the NSW marine bioregions where this access is required and methods for the activity to be conducted, where possible, using existing information sources (e.g. abalone).
4. Undertake a gap analysis to identify priority information needs relevant to current Aboriginal values and uses within the NSW marine estate that could assist in informing this and future similar projects.
5. Evaluate and further refine/develop the list of identified threats to Aboriginal and cultural heritage benefits and uses of the NSW marine estate at the state-wide scale (see yellow highlighted areas in Attachment 3).
6. Identify key Aboriginal community contacts/stakeholders who should be targeted for consultation to review the draft outcomes of the risk assessment at the NSW state-wide scale.
7. Provide any recommendations to inform future engagement approaches undertaken by the Authority to effectively engage the Aboriginal community in the review of the draft outcomes of the risk assessment and to inform the development of culturally appropriate management responses to priority risks.
8. Provide a report using a MEMA agency approved reporting template summarising the outcomes of objectives 1-7 above to inform an expert-led workshop in early 2015.
9. Attend an expert-led workshop to inform the experts on the Aboriginal and cultural heritage benefits and threats to these benefits to assist with the 'risk analysis' phase.
10. Provide a 20 minute presentation to the Marine Estate Expert Knowledge Panel (MEEKP) and MEMA agency staff in Sydney (date to be advised) summarising the reports and outlining information and knowledge gaps, data assumptions, lessons learnt and other information of use to inform the risk assessment for the marine estate.

Project deliverables

- Provision of a draft research methodology outlining how the project objectives outlined above will be delivered. This methodology will be subject to review by the MEEKP and may result in amendments to the final methodology and timeframes outlined in the table below.
- Provision of the data and information collated from the project in a report format agreed to by MEMA. A proposed reporting template has been developed by MEMA and can be supplied on request.
- Submission of a written report in the agreed report format. The report will address the project objectives 1-7 outlined above.
- Attendance at the expert workshop in early 2015 at a date to be advised and deliver a 20 minute presentation on the outcomes of this proposal to inform the 'risk analysis' phase.

Project Milestones

Milestone	Responsibility	Timeframe
1. Draft research methodology	External Investigator	13 March 2015
2. Review research methodology and	MEMA/MEEKP	21 March 2015

provide feedback to contractor		
3. Final research methodology	External Investigator	27 March 2015
4. Conduct literature review and critical analysis	External Investigator	April 2015
5. Progress report	External Investigator	24 April 2015
6. Draft background information report	External Investigator	8 May 2015
7. Review of background information report	MEMA/MEEKP/Stephan Schnierer	15 May 2015
8. Final background information report	External Investigator	22 May 2015

Performance standards

- Commitment to timelines and milestones as outlined in this proposal.
- Privacy standards for data management and reporting which meet legislative requirements.

Budget

Justification	**2015**
Fee for service – 20.5 days @ $1,000/day	$20,500
Sub-total	**$20,500 (GST inclusive)**
On-costs Administrative fee (xx%)	**$0**
Project total	**$20,500 (GST inclusive)** plus travel, accommodation, report production expenses

Consulting expert(s).

- Marine Estate Management Authority agency staff
- Marine Estate Expert Knowledge Panel members
- Stephan Schnierer – Associate Professor, Southern Cross University

Project governance

The project will be overseen by Fisheries NSW. The **Project leader** is Sarah Fairfull.

The Project Leader will:

- monitor project progress to ensure achievement of project objectives;
- liaise with the MEEKP on the project methodology;
- review the proposed report format to ensure it is consistent with similar documents being generated within MEMA;

- make decisions on strategic project issues and address any issue that has major implications for the project in consultation with the MEMA Steering Committee;
- liaise with Stephan Schnierer or another Aboriginal cultural heritage expert to review the draft report prepared as part of the deliverables;
- liaise with OEH to access relevant data on Aboriginal cultural heritage for the marine estate to provide to External Investigator at no cost; and;
- champion and support the objectives of the project, removing barriers to project progress and agreement.

Project progress will be discussed fortnightly between the Project Leader and External Investigator via phone, or via email updates as required, to monitor progress and to address any key issues arising that may delay the project deliverables and timeframes.

Key stakeholders

The project will be overseen by the **MEMA Steering Committee**, comprising agency representatives from:

- Office of Environment and Heritage (Althea Kannane)
- Department of Primary Industries (Fisheries) (Bill Talbot)
- Trade and Investment (Nick Milham)
- Planning & Environment (Alex O'Mara)
- Transport for NSW (Andrew Mogg)

Its role is to provide overarching project management, to resolve interagency issues prior to MEMA meetings and to address resourcing and other constraints that arise during the project.

Attachment 1 – Glossary of terms for the proposal

Glossary of terms for threat and risk assessments for the Marine Estate

Asset: An asset is the entity that is to be managed. For the purposes of the NSW marine estate there are three main types of assets that need to be managed.

- Environmental assets - include the living resources such as fish, habitats, ecosystems etc
- Cultural assets - include historic ship wreck sites, Aboriginal places (e.g. middens, burial sites) and non-physical assets
- Infrastructure assets - include the man-made structures such as jetties, harbours etc.

Community benefits: a community benefit is anything that is for the good of a person, community or thing. The benefit of the marine estate could be:

- swimming at the beach on a hot summer day
- exercising while enjoying the coastal views
- family time at the beach or while boating in an estuary
- undertaking a hobby (e.g. fishing, kayaking, surfing, bird watching, etc.)
- deriving income (e.g. whale watching business, charter fishing, commercial fishing, etc.)

The three categories of community benefit – economic, social and environmental - were identified in the MEMA Principles Paper. They are, respectively, benefits derived by the community from the marine estate that are of an economic/financial nature (e.g. commercial fishing), benefits to the community of a social/relational nature (e.g. family visits to the beach) and benefits to the community that are of an environmental nature (e.g. intrinsic existence and bequest values).

Cultural use: The use of the marine estate to demonstrate or perform skills, arts, beliefs and customs and to pass these on from one generation to the next.

Ecological: The relationship between organisms and their environment.

Economic: Relating to the production, distribution, and use of income, wealth, and commodities. In relation to the marine estate, values and benefits that are derived from use of the marine estate for commercial purposes e.g. income, employment.

Marine estate: The marine estate includes the

- ocean
- estuaries
- coastal wetlands (saltmarsh, mangroves, seagrass)
- coastline including beaches, dunes and headlands
- coastal lakes and lagoons connected to the ocean
- islands including Lord Howe Island

It extends seaward out to 3 nautical miles and from the Queensland border to the Victorian border.

Risk: The chance of something happening that will have an impact on achieving environmental, social or economic objectives. (AS/NZS ISO 31000: 2009 = effect of uncertainty on objectives).

Risk analysis: Process to comprehend the nature or level of risk.

Risk assessment: overall process of risk identification, risk analysis and risk evaluation.

Risk identification: process of finding, recognising and describing risks. It involves the identification of risk sources, events, their causes and potential consequences. It can involve historical data, analysis, informed and expert opinions and stakeholder's needs.

Risk level: magnitude of a risk or combination of risks, expressed in terms of the combination of consequences and their likelihood.

Risk management: coordinated activities to direct and control an organisation with regard to risk.

Risk management framework: set of components that provide the foundations and organization arrangements for designing, implementing, monitoring, reviewing and continually improving risk management.

Risk treatment: process to modify the risk (e.g. avoiding it, removing the source, changing the likelihood or consequences, sharing the risk or retaining and managing the risk by informed decisions). Management controls introduced by government are examples of risk treatments.

Social: of or relating to the life and relation of human beings in a community.

Stakeholder: person or organisation that can affect, be affected by, or perceive themselves to be affected by a decision or activity.

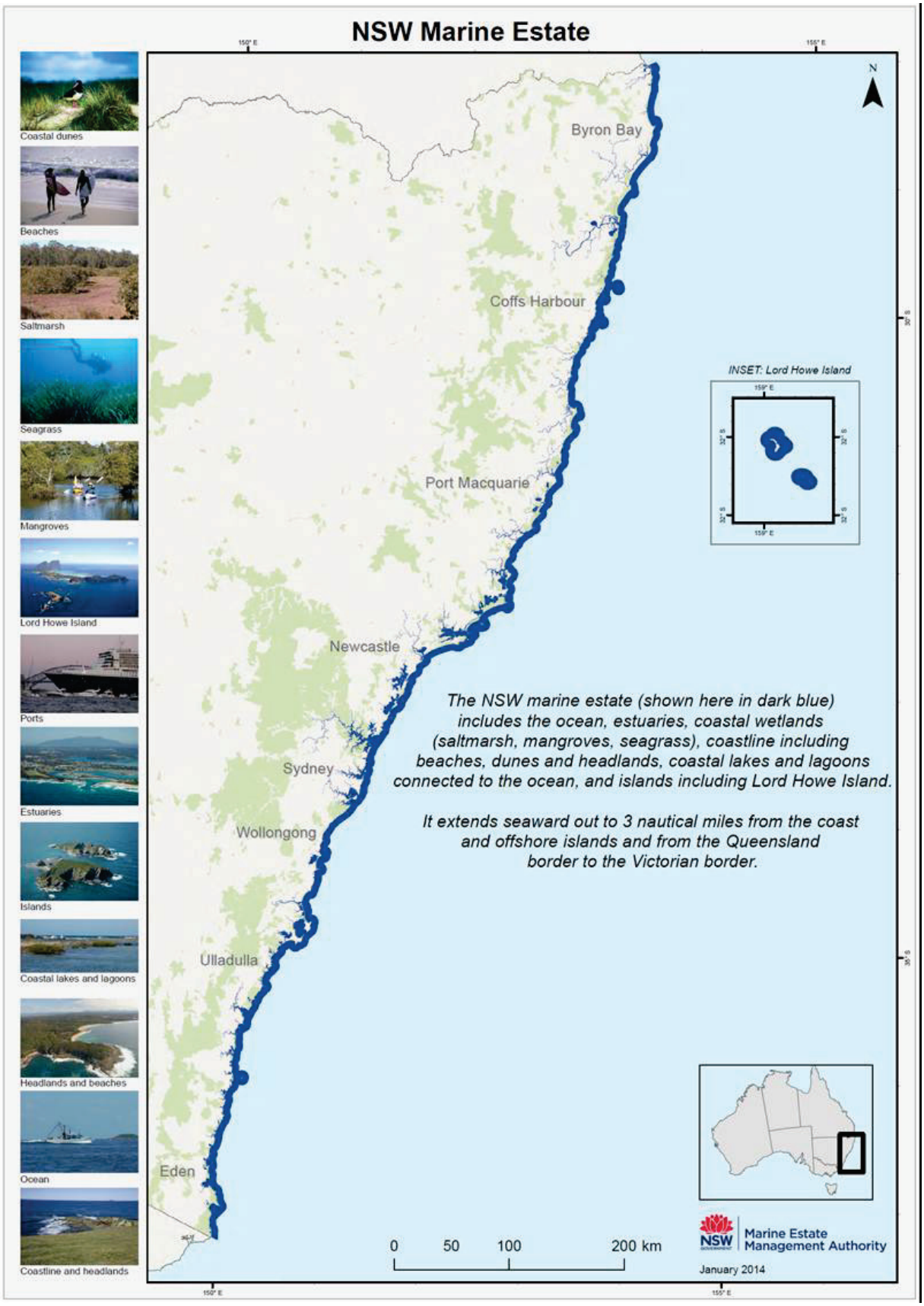
Stressor: the physical, chemical or biological components of the environment that when it reaches a threshold level, causes an impact, directly or indirectly on an ecological, social or economic component.

Threat: also known as "a risk source", is a broad activity, event or process that poses a potential level of risk to environmental, social and economic benefits from being realised. Threats often affect multiple benefits and each benefit is invariably affected by multiple threats.

Value: the regard that something is held to deserve; the importance, worth, or usefulness of something. The **value** of the marine estate can include:

- ***intrinsic value*** that marine biodiversity has, and gives to my confidence that the ocean is healthy
- the ***opportunity*** to access and use a local beach when I want to for recreation
- the ***security*** of knowing that my grandchildren will have the same opportunity for quality fishing experiences in our local fishing port that I had as a child
- the ***impetus that the marine environment provides*** for people to buy my swimwear/sports goods/fishing gear/tourist products

<u>Attachment 2</u> – Map and definition of the NSW marine estate.



Attachment 3: Benefits and threats for the NSW marine estate.

Benefits and threats for the NSW marine estate threat and risk assessment

Introduction

Tables 1, 3 and 5 summarise the environmental, social and economic community benefits derived from the NSW marine estate. Tables 2, 4 and 6 summarise the threats to those benefits for the purposes of the threat and risk assessment for the NSW marine estate.

Please note that the term "threat" used in tables 2 and 4 is equivalent to the term "risk" in the context of *AS/NZS ISO 31000: 2009 Risk Management – Principles and Guidelines*. The term "threat" has been used in the Marine Estate Management Authority's Principles Paper (MEMA, 2013) and in other relevant documentation as it has more traction with the general public than the term "risk" when discussing potential negative effects to benefits derived from the NSW marine estate.

1. Environmental benefits and threats in the NSW marine estate

Table 1 – Environmental benefits of the NSW marine estate

Key benefits	**Descriptors of the key benefits**
Clean waters	Open water in estuaries and coastal lakes
	Ocean waters
Marine biodiversity	Diversity and abundance of estuarine & marine fauna
	Diversity and abundance of estuarine & marine vegetation
	Fish, shellfish & aquaculture stocks, invertebrates
	Whales, turtles, dolphins, seals, penguins, shorebirds, seabirds
Habitat diversity	Seagrasses, mangroves, saltmarsh, marine algae
	Sand banks, mud flats
	Rocky reefs, sponge gardens
	Soft and hard coral community assemblages
	Headlands, offshore islands, beaches, bays, estuaries, coastal lakes, rock platforms
	Underwater caves, crevices
	Ocean and estuarine open water

Table 2 – Potential sources of threats, specific activity categories relating to those threats and key stressors relevant to **estuarine and marine environments**.

Note that stressors (Level 4) relate to multiple activities (Level 3). This table summarises the potential **environmental threats** to the environmental benefits of the NSW marine estate. Threats to environmental benefits have a flow on effect to many of the social and economic benefits derived from the marine estate.

Lead agencies within the Authority for the preparation of background material to support the threat and risk assessment are noted in column 4 of the table.

Potential sources of threats LEVELS 1 and 2	**Specific activities relating to these sources LEVEL 3**	**Key stressors LEVEL 4**
Resource use		
Shipping	Large commercial vessels (trade ships, cruise ships, etc.)	Vessel strike on wildlife, physical damage, wildlife disturbance, sediment re-suspension/disturbance, antifouling toxicants, pests/diseases
	Small commercial vessels (ferries, charter boats, etc.)	As above, bank erosion
	House boats	As above
Commercial fishing	Ocean Trap and Line	Reductions in abundances of top and lower order trophic levels, incidental bycatch, incidental catch of species of conservation concern, wildlife disturbance, physical entanglement, ghost fishing, litter, marine debris
	Ocean Trawl	Reductions in abundance of top and lower order trophic levels, incidental bycatch, incidental catch of species of conservation concern, physical damage, physical entanglement, ghost fishing, marine debris
	Ocean Haul	As above
	Lobster	Reductions in abundance of lower order trophic levels, incidental bycatch, incidental catch of species of conservation concern, ghost fishing, physical entanglement, marine debris
	Abalone	Reductions in abundance of lower order trophic levels
	Estuary General	Reductions in abundance of top and lower order trophic levels, incidental bycatch, incidental catch of species of conservation concern, pests/diseases
	Estuary Prawn Trawl	As above
Charter fishing	Line fishing	Reductions in abundance of top and lower order trophic levels, incidental bycatch, incidental catch of species of conservation concern, lost/discarded fishing gear
Recreational fishing	Shore-based line and trap fishing	Reductions in abundance of top and lower order trophic levels, physical damage, litter, wildlife disturbance, physical entanglement,

		incidental bycatch, incidental catch of species of conservation concern, litter, ghost fishing (e.g. crab traps)
	Boat-based line and trap fishing	As above and vessel strike on wildlife, marine debris, pests/diseases
	Illegal fishing or collecting	As above
	Spearfishing and hand gathering	As per shore-based line fishing, wildlife behavioural changes
	Fish stocking (mulloway, prawns, Australian bass)	Increase in abundance of top & lower order trophic levels, wildlife disturbance, wildlife behavioural changes
Cultural fishing	Line fishing, spearfishing, hand gathering, traditional fishing methods	Reductions in abundance of top and lower order trophic levels, incidental bycatch, incidental catch of species of conservation concern
Charter activities	Whale and dolphin watching	Vessel strike on wildlife, marine debris, wildlife disturbance, bank erosion
Aquaculture	Finfish farming (marine)	Physical damage, water pollution, wildlife disturbance, vessel strike on wildlife, wildlife connectivity, noise pollution, physical entanglement, incidental bycatch, incidental catch of species of conservation concern, artificial lighting, hybridisation, antibiotic resistance, antifouling toxicants, pests/diseases/viruses, sediment contamination
	Oyster/mussell farming (estuarine)	Infrastructure, species interactions, litter, hybridisation, shading, threatened species & wildlife interactions, antifouling toxicants, pests/diseases/viruses, sediment contamination
	Prawn farming	As above, water extraction, point source discharges (nutrients, sediments, pollutants)
Research and education	Collecting, sampling and tagging	Reductions in abundance or removal of top and lower order trophic levels, wildlife disturbance, incidental bycatch, incidental catch of species of conservation concern
Recreation and tourism	Boating and boating infrastructure	Physical damage, habitat loss, vessel strike on wildlife, bank erosion, wildlife disturbance, shading, habitat destabilisation and fragmentation
	Snorkelling and diving	Physical damage, wildlife disturbance
	Swimming and surfing	Wildlife disturbance
	Four wheel driving	Physical damage, wildlife disturbance, pests/diseases/weeds, sediment compaction
	Shark meshing of swimming beaches	Reductions of abundance of top and lower order predators, physical entanglement, incidental bycatch, incidental catch of species of conservation concern,
	Other recreational uses of the	Physical damage, wildlife disturbance,

	marine estate	interactions with species of conservation concern, pests/diseases
Dredging	Navigation & entrance management/modification, harbour maintenance etc.	Physical damage, re-suspension of dredge material/contaminants, wildlife disturbance, water pollution
Mining	Oil, gas, minerals, sand, aggregate, underground coal	Physical damage, sediment and nutrient pollution, oil and chemical spill, wildlife disturbance, marine debris
Service infrastructure	Pipelines, cables, trenching and boring	Physical damage, habitat loss and fragmentation, water pollution, sedimentation, oil and chemical spills, contamination from leaks/breakages
Land-based impacts		
Foreshore development	Shoreline hardening (e.g. breakwalls, seawalls)	Physical damage, wildlife disturbance, litter, changes in connectivity, pests/diseases, changes to tidal flow patterns
	Reclamation	Changes to tide and flow patterns, physical damage and habitat modification, litter, water pollution, erosion, sediment deposition, acid sulphate soil drainage, water temperature (eg loss of shading)
	Clearing & drainage of wetlands/adjacent lands	Altered tide and flow patterns, erosion and deposition of sediments, physical damage & habitat modification, pollutants from catchment runoff, acid sulphate soil drainage, water temperature (loss of shading), flooding
	Entrance modification	Altered tide and flow patterns, physical damage, nutrient inputs
	Public access infrastructure for vehicles, boats & people (e.g. marinas, walkways, boat storage)	Physical damage & habitat modification, soil compaction, litter, water pollution, pollutants from runoff, shading, artificial lighting, pests/diseases
	Building roads, bridges, railway lines	Physical damage & habitat modification, soil compaction, litter, water pollution, shading, artificial lighting
Extractive industries (e.g. forestry, mining)	Mining – oil, gas, petroleum, coal Mining – aggregate, sand Forestry	Physical damage & habitat modification, erosion and deposition of sediments, pollutants from catchment runoff, litter, oil and chemical spills, changes to flow patterns
Agriculture	Catchment run-off	Nutrients, sediment and pollutants from catchment runoff, flooding, hypoxia, pests/diseases/viruses, litter
Urban discharge	Stormwater runoff	As above
	Point source discharges including sewage treatment plants and sewage overflows	Nutrients and pollutants from point sources, microplastics,
	Effluent and septic runoff	Nutrients and pathogens from septic discharges, water pollution, groundwater contamination
	Illegal dumping of waste	Litter, pollutants, marine debris

Coastal floodplain development/use	Wetland drainage	Physical damage & habitat modification, pollutants from catchment runoff, wildlife connectivity
Modified freshwater flows	Extraction, artificial barriers to riverine and estuarine flow (e.g. dams, weirs, waterway crossings, floodgates)	Physical damage, pollutants from catchment runoff, wildlife connectivity, altered flow patterns
	Urban drainage/impervious surfaces	Physical damage, altered flow patterns, erosion and sedimentation, litter, pollutants from catchment runoff
Industrial activities	Coal fired power stations, desalination	Thermal pollution, wildlife interactions, wildlife connectivity, freshwater discharges
Marine biosecurity		
Introduction of pest species (plant and animal)	Commercial shipping (via contaminated fishing gear/infrastructure or heavily fouled hulls)	Competition with native species, physical damage & habitat modification, predation, pests/diseases/parasites
	Recreational boating (via contaminated fishing gear/infrastructure or heavily fouled hulls)	As above
	Aquarium trade	As above and below
Introduction of diseases	Use of imported bait, release of pest fish, transport via heavily fouled vessels or infrastructure (e.g. moorings)	Disease introduction
Marine and estuarine pollution		
People	Recreational and commercial uses	Litter, marine debris, waste dumping
Dredging	Spoil dumping	Physical damage, pollutant input from dredge spoil
Commercial shipping	Large commercial vessels (e.g. ships)	Waste discharge, sewage discharge, oil or chemical spill, marine debris, antifouling toxicants, re-suspension of sediments
	Small commercial vessels (e.g. ferries, water taxis)	Waste discharge, sewage discharge, oil or chemical spill, litter, antifouling toxicants
	Fishing vessels	Waste discharge, oil spill, marine debris, litter, antifouling toxicants, sewage discharge
Recreation and tourism	Boating	Sewage discharge, waste discharge, oil spill, litter, marine debris
	Other uses of the marine estate	Litter, marine debris, nutrient inputs
Coastal floodplain development/use	Drainage of coastal floodplains	Exposure of acid sulphate soils, water pollution, post-flooding discharge
Boat building/maintenance	Slipways	
International pollutants	Urban, industrial and tourism waste from other countries/external sources	Marine debris
Climate change		
Climate change	Altered ocean currents & nutrient	Change in nutrients, wildlife population

	inputs	connectivity
	Climate and sea temperature rise	Increased water temperature
	Ocean acidification	Decreased pH
	Altered storm/cyclone activity	Physical damage, wildlife disturbance, pollutant input from catchment runoff
	Sea level rise	Inundation, physical damage, bank erosion, beach erosion, habitat modification or loss
Extreme storm events & fire	Flooding, storm surge, tsunami, inundation	Physical damage, sediments and pollutants from runoff, bank erosion, beach and foreshore erosion, litter, marine debris, modification and loss of habitats, altered flow patterns
	Bushfire	Physical damage, pollutants from catchment runoff, habitat modification

2. Social and cultural benefits and threats for the NSW marine estate.

Table 3 – Social and cultural benefits derived from the marine estate

Benefit	**Specific activity**
Recreation	on-water recreation
	foreshore and water-based passive and active uses (swimming, beach use etc.)
Fishing, recreation	shore based, boat based, spear fishing, hand gathering
Boating, recreation	Sailing, power boating, kayaking, canoeing, jet skiing, house boats
SCUBA diving, snorkelling	Wildlife observation, photography
Research and education	Sampling, monitoring, measuring, surveying, data collection, tagging
Cultural activities	traditional resource use
	practicing cultural traditions
	traditional knowledge
Conserving heritage	maritime, post-contact
	Indigenous, pre-contact
Health and well-being	Exercising, observation, meditating, socialising, intrinsic value

Table 4 – Threats to social and cultural benefits derived from the marine estate.

Table 4 summarises the potential sources of threats, specific activity categories relating to those threats and key stressors to the **social and cultural benefits derived from the marine estate**. Note that stressors relate to multiple activities – the environmental stressors listed in Table 2 will be assessed separately as part of the environmental threat assessment. Lead agencies within the Authority for the preparation of background material to support the threat and risk assessment are noted in column 4 of the table.

Potential sources of threats LEVELS 1 and 2	Specific activities/issues relating to those sources LEVEL 3	Key stressors LEVEL 4
Human use		
Constraints to access	Foreshore access	Limited access points, restrictions on access/parking, bank erosion, overcrowding, anti-social behaviour, private development, costs, safety of access, over-regulation, sea level rise/inundation, competing uses
	Cultural access	As above
	Waterway access	As above plus water pollution, lack of boating infrastructure/storage facilities, competing uses (e.g. fishing, waterway infrastructure, other water users)
Constraints to recreational use	Coastal development/urbanisation	Overcrowding, restrictions on access/parking, costs, anti-social behaviour, crime/theft, loss of appeal
	Recreational boating	Restrictions on access/use, costs, lack of infrastructure/storage/services, competing uses, lack of designated areas for use, public safety, anti-social behaviour, over-regulation (including complexity in the planning system), costs
	Competing recreational uses (e.g. fishing and SCUBA diving)	Restrictions on access/use, lack of designated areas for use, public safety, anti-social behaviour, overcrowding, loss of appeal, costs, litter, water pollution
	Recreational use competing with commercial use (within the same area)	As above
	Marine protected area zonings, closures	Restrictions on access/use
Reduction in public safety	Waterway and beach use	Water pollution, litter, lack of safe designated areas, other competing uses, wildlife interactions (eg sharks/jellyfish), anti-social behaviour, watercraft interactions
Constraints on cultural use	Traditional fishing & food gathering, other cultural traditions, generation of traditional knowledge	Water pollution, litter, overcrowding, competing uses, anti-social behaviour, restrictions on access, over-regulation, disease/pests, sea level rise/inundation, zoning/fishing restrictions
Constraints on research/education	Research and education	Water pollution, disease/pests, ocean acidification, temperature increase, commercial and recreational fishing, costs, over-regulation, lack of investment

Urbanisation/resource extraction & use		
Loss of natural beauty/ areas	Recreation, intrinsic value	Water pollution, litter, overcrowding, loss of visual amenity, physical damage/alteration, over regulation, compliance, illegal activity, loss of appeal
Loss of biodiversity	Recreation, intrinsic value, cultural use	As above
Reduction in Intergenerational equity	Bequest value	As above
Loss of cultural heritage	Bequest value	As above
Communication & engagement processes		
Poor engagement/ communication	Decision-making, education and awareness raising, communication	Distrust, engagement fatigue, apathy, lack of ownership, misinformation, level of engagement, illegal activity, awareness/understanding, culturally appropriate engagement

3. Economic benefits and threats for the NSW marine estate.

Table 5 - Economic benefits derived from the marine estate

Economic benefit	Further definition
Domestic and international trade and tourism via shipping	Freight and commodity import and export, transport logistics
	Port activities, infrastructure, access (existing, development and expansion)
	Shipping (including navigation safety)
	Associated industries and trade (ship building, ship maintenance, fuel)
	Domestic and international tourism from cruise shipping sector
Boating - commercial and charter	Fishing / SCUBA diving / wildlife watching
	Boating industry, including marinas, slipways
Recreational fishing	Tackle shops, tourism, fishing competitions, boat building, fuel, boat maintenance
Transport	On water public passenger services, fuel
Tourism and accommodation	Estuarine and marine nature-based tourism
	Other forms of tourism
Coastal urban settlement	Coastal urban settlement – existing and new developments
Commercial fishing	Line, trawl, net fishing
	Boat building, maintenance, net manufacturers, fuel
	Fish co-operatives, seafood trade, seafood restaurants/cafes
Aquaculture	Estuary (e.g. oyster), seafood trade, seafood restaurants/cafes
	Off-shore
Retail and trade	Surf shops, dive shops, coastal restaurants, cafes, bars
Bio-prospecting	Potential use of biodiversity
Extractive and disposal uses	Mining (coal, oil, gas, sand, aggregate)
	Waste disposal (sewerage, dredge spoil dumping, stormwater)
	Water extraction (urban, agriculture, cooling, desalination)

Table 6 – Threats to economic benefits derived from the marine estate.

This table summarises the potential sources of threats, specific activity categories relating to those threats and key stressors to the **economic benefits derived from the marine estate**. Note that stressors relate to multiple activities – the environmental stressors listed in Table 2 will be assessed separately as part of the environmental threat assessment. Lead agencies from within the Authority for the preparation of background material to support the threat and risk assessment are noted in column 4 of the table.

Potential sources of threats LEVELS 1 and 2	Specific activities/issues relating to these sources LEVEL 3	Key stressors LEVEL 4
Access and use		
Constraints to ports and shipping activities	Port activities, maintenance and development, shipping, trade and associated industries	Limits on port throughput, limited port facilities, dredging, urbanisation, costs, over-regulation (including complexity of the planning system), navigation safety, economic drivers, customer demand, oil and chemical spills, grounding, loss of social licence
Limitations on tourism	Estuarine and marine nature-based tourism	Overcrowding, restrictions on access/use, costs, loss of appeal, water pollution, litter, loss/degradation of protected areas, urbanisation/coastal development, public safety, pests/disease, competing uses, climate change, physical damage, loss of biodiversity
	Other forms of tourism	Restrictions on access/use, public safety, anti-social behaviour, loss of appeal, costs, overcrowding, climate change, water pollution, litter, lack of infrastructure, lack of government investment
Constraints to commercial uses	Boating industry for commercial, charter and recreational boating	Water pollution, litter, other competing uses, non-target wildlife interactions, anti-social behaviour, loss of social licence, pests/disease and access limitations (e.g. closures/quarantine), over-regulation (including complexity of planning system)/restrictions on use, costs, maintenance of port facilities/infrastructure/access
	Aquaculture (estuary and offshore)	Water pollution, oil and chemical spill, over-regulation/restrictions on use, costs, non-target wildlife interactions, anti-social behaviour, loss of social licence, loss or resource access rights, pests/disease, urban development, climate change, pests/diseases, theft/damage to stock or equipment
	Commercial fishing & seafood trade	Zonings, closures, reductions in abundance of fish stocks, market prices, fuel costs, other competing uses, loss of social licence, loss of resource access rights, pests/diseases, over-regulation/restrictions on use, costs, maintenance of port facilities/infrastructure/access, pollution, reduction in demand
	Retail and trade	Pollution, anti-social behaviour, costs, over-regulation, reduction in demand, other competing uses, pests/diseases/viruses, market preferences
Constraints to extractive industries/disposal uses	Mining (coal, oil, gas, sand, aggregate)	Competing uses, restrictions on access, over-regulation, sea level rise, loss of social licence, costs
	Waste disposal (sewerage, dredge spoil dumping, stormwater)	Restrictions on access, over-regulation, costs, loss of social licence
	Water extraction (urban, agriculture, cooling, desalination)	Restrictions on access, over-regulation, urban development, costs, loss of social licence
Constraints on	Urbanisation/coastal	Competing uses, restrictions on access, over-regulation,

coastal development	development	sea level rise, bank erosion, coastal inundation, storm surge, costs, illegal activity, lack of government investment
Constraints to public water transport	On water public passenger services	Restrictions on access/use/location of operations, over-regulation (including complexity of the planning system), costs, public safety, loss of appeal, loss of visual amenity, lack of government investment
Communication & engagement processes		
Poor engagement/ communication	Decision-making, education and awareness raising, communication	Distrust, engagement fatigue, apathy, lack of ownership, misinformation, lack of engagement, illegal activity, lack of awareness/understanding

Appendix 2: Approved methodology

ABORIGINAL PEOPLE AND THE NSW MARINE ESTATE: Methodology

Sue Feary
9 March 2015

The table below presents the agreed stages and timing for completion of the project. Stage 1 of the project requires preparation of a methodology to meet the project objectives.

	TASK	TIME FOR COMPLETION	RELEVANT OBJECTIVE
STAGE 1			
	Prepare draft methodology	13/3/15[31]	
	Final methodology	20/3/15	
STAGE 2			
	Literature review	late March	1 and 2
	Analysis of OEH databases/reports		1 and 2
	Written synthesis /overview of information, to provide cultural context to values/threats analysis		1 and 2
STAGE 3			
	Values/uses/benefits analysis	mid-April 2015	3
	Gap analysis		4
	Threats analysis		5
STAGE 4			
	Advice re Aboriginal consultation strategy	mid-April 2015	6 and 7
STAGE 5			
	Prepare report	April-early May	
	Submit draft report	8 /5/2015	8
	Final report	22/5/2015	
STAGE 6			
	Attend expert-led workshop	TBA	9
	Prepare and deliver presentation	TBA	10

Objective 1
Collate and aggregate background information on Aboriginal values of the marine estate at a state-wide level and on current uses of the marine estate by Aboriginal people.

This is largely contextual, and will be achieved by:-

a. Review and synthesis of published and unpublished papers and reports and relevant databases pertaining to traditional, historical and contemporary connections between NSW Aboriginal people (coastal communities between the Queensland and Victorian borders) and the various components

[31] Extended to 25/2/2015

of the marine estate. Information will be drawn from archaeological, anthropological and sociological sources. No new data will be collected.

b. Identifying and describing current use of the marine estate by Aboriginal people, drawn from government based reviews and audits and associated academic research.

Objective 2
Provide descriptions of Aboriginal cultural heritage

The values and benefits of the marine estate for Aboriginal people are deeply embedded in the past and in a worldview of the land and the sea existing as a single cultural and economic unit. Appreciation and protection of cultural heritage is an important element of contemporary uses and values.

Define Aboriginal cultural heritage and its legal status in state and federal legislation. Using the literature and databases reviewed in Objective 1 above, describe different 'types' of cultural heritage as it relates to the different components of marine estate and adjacent lands, and its significance to Aboriginal communities. Examples and case studies will be used.

Demonstrate how cultural heritage (as legally defined in NSW) influences and frames contemporary connections between Aboriginal people and the marine estate, through continuity of use e.g. archaeological sites containing same species as those harvested today, or application of traditional ecological knowledge in harvesting certain species of invertebrates

A data licence with OEH will facilitate access to critical cultural heritage information. Where possible, variation among the different bioregions will be highlighted.

Objective 3
Provide descriptions of contemporary cultural heritage values and benefits

Information on contemporary values, uses and benefits will be derived from the research done for Objectives 1 and 2 above and any previous studies where Aboriginal people have provided specific information on what they value about the marine estate and the socioeconomic benefits it provides. Case study analysis will be used to provide detail on fishing information where possible. Input will be sought from a qualified anthropologist in addressing Objectives 1, 2 and 3.

Objective 4
Gap analysis

The research conducted for Objectives 1-3 will almost certainly reveal gaps in knowledge on the values and uses of the marine estate to Aboriginal people. For example, there is limited quantitative data for the coastal NSW Indigenous fishery in terms of demand, or on the benefits of increased access to the fishery. Furthermore many of the cultural benefits to Indigenous people are difficult to quantify, as are threats to the cultural values, hence they may not be fully understood by relevant authorities.

Gap analysis methodology will comprise a review of recommendations and observations identified in the existing literature, as well as identifying areas or topics not adequately addressed in current polices and legislation of relevant authorities. The gap analysis will identify whether additional information should be quantitative or qualitative and provide recommendations on methodologies for addressing data gaps.

Potential gaps may include for example;

a. The impact of Native Title rights and interests on management of the marine estate in NSW and how this may vary among bioregions and different types of marine estate e.g. marine parks.
b. Whether there is a need to develop a new paradigm for deeper understanding of the articulation of cultural fishing with commercial fishing among Indigenous communities.
c. Determining to what extent effective consultation and engagement processes by relevant authorities contributes to identifying and protecting Indigenous values and uses and minimising threats to these values and uses.

Objective 5
Develop a comprehensive list of threats to Aboriginal cultural heritage values and uses

Review existing list of potential threats provided in the project brief. Use examples and case studies [e.g. data collected during background research for a cultural use agreement for Batemans Marine Park) and refine and further develop the list – identifying the source of the threat and provide recommendations on amelioration.

Objective 6
Identify key Aboriginal stakeholders to review risk assessment report

Compile a list of key Aboriginal stakeholders drawn from several sources - personal knowledge and experience and personal contacts developed from working with Aboriginal communities on the south coast for many years; stakeholder lists held by relevant authorities; and information from relevant existing reports.

Prepare a spreadsheet with all contact details and a rationale for their selection as stakeholders and the source of the information. This will be done at state and bioregion scales. It should be noted that the stakeholder list cannot be finalised until potential stakeholders are contacted to confirm their current contact details and to seek approval for their contact details to be listed in any public documents.

Objective 7
Recommendations for future engagement

Describe current consultation arrangements between the four Marine Estate Management Authority member agencies (i.e. Department of Primary Industries, Office of Environment and Heritage, Roads and Maritime Services and Department of Planning) and Aboriginal people in regard to the various elements of

the marine estate e.g. Advisory Committees, etc. This will be drawn from what is available on relevant websites and in reports and may involve discussion with key people suggested by NSW Fisheries.

Review existing consultation strategies and guidelines more widely, e.g. Forest Stewardship Council Indigenous Engagement Strategy, and identify approaches that have proved to be the most effective.

On the basis of the above, provide recommendations for effective engagement with Indigenous communities, including in the development of Fisheries NSW responses to risks and threats to values.

Objective 8

Report production

Prepare a report in an agreed format, outlining the approach to and results of the research, which will include limitations, and recommendations for additional work and effective Aboriginal consultation. An executive summary will summarise responses to the objectives. Comments of the draft report will be addressed and/or discussed with the project leader as required.

Objectives 9 and 10

Attend workshops and do presentations

Undertake preparation as necessary, including preparing power point presentations.

Appendix 3: Interim arrangements for cultural fishing

NSW GOVERNMENT Department of Primary Industries

INT14/90930

Public Circulation Document
Effective from 3 November 2014 (until rescinded)

Aboriginal Cultural Fishing Interim Access

Application of this Aboriginal cultural fishing interim access arrangement is on the basis that the taking of fish and other activities listed in this document is recognised as permitted Aboriginal cultural fishing when undertaken in line with the complete reading of the arrangement.

Please read the arrangement in its entirety before undertaking fishing activity. If the interim access arrangement is not fully complied with fishing activity is open to full application of fisheries law as it is prescribed. For clarification of the arrangements please call (02) 9741 4821.

Access Arrangement:
For the purpose of providing for Aboriginal cultural needs, where elders, the incapacitated, or other community members are unable to, or it is otherwise not appropriate for them to engage in cultural fishing activity, the amount of fish that is operationally from a compliance perspective allowed to be taken or possessed by the individual Aboriginal person undertaking the fishing is double that of the current recreational bag/possession limits, other than for those species with specific limits tabled below:

Species	Daily Take Limit	Possession Limit
Abalone	10	10
Flathead (Other than Dusky Flathead)	40	40
Bream and Tarwhine	40 in total	40 in total
Tailor	40	40
Blue Swimmer Crab	40	40
Trevallies	40	40
Luderick (Blackfish)	40	40
Murray Cod	4	8

The shucking of abalone, rock lobster and turban shell within 100 metres of the high water mark is also being accommodated from the compliance operational perspective if the fish are consumed within that area.

The interim access arrangement is applicable to all waters from which the recreational harvest of fish is permitted including the appropriate zones of marine parks and aquatic reserves.

Nothing in this interim access arrangement extends to activities or methods of fishing beyond the rules as prescribed in or through legislation, apart from what is specifically provided for under this interim access arrangement.

If there are needs that are in excess of what this interim access arrangement provides for such as may be needed for larger cultural events, application for authority under section 37 of the *Fisheries Management Act 1994* should be made. Section 37 authorities are issued to provide defence to prosecution related to activities that are identified in the authority in line with any conditions detailed in the authority. Similarly additional application for access to marine park areas where proposed fishing activity would not normally be allowed will be needed. All applications for authorities are assessed with a view to provide access to resources unless there are overriding resource management or other concerns.

This Aboriginal cultural fishing interim access arrangement has been approved by:

Peter Turnell, Acting Executive Director Fisheries NSW

Signed: _____ Dated: 29/10/14

Appendix 4: Previous studies used in this report

MARINE BIOREGION	STUDY LOCATION	TITLE/DATE	TYPE OF STUDY	AUTHOR/S
COMMONWEALTH WATERS				
Commonwealth East Marine Planning Region	SE Queensland and NSW south to Bermagui.	As far as the eye can see	Literature review. Input from Aboriginal peak bodies and non-Indigenous people	C&R consulting PL (2007)
Commonwealth south-east regional marine plan	NSW south of Bermagui, Tasmania, Victoria and part SA.	Sea Country - an Indigenous perspective	Consultation with coastal Aboriginal people/organisations and literature review	Smyth and Bahrdt Consultants(2002)
Commonwealth Waters	Australia-wide coastal zone	A Voice In All Places – Aboriginal and Torres Strait Islander Interests in Australia's Coastal Zone.	Extensive nation-wide Indigenous consultation Seminal study.	Smyth, D. M (1993)
Australia-wide	Northern Australia only for Indigenous data	The National Recreational and Indigenous Fishing Survey.	Literature, observation and face to face interviews	Henry, G and Lyle, J (2003)
Commonwealth	Australia wide	Fisheries, Aquaculture and Aboriginal and Torres Strait Islander Peoples: Studies, Policies and Legislation.	Literature review	Sutherland, J (1996)
NSW				
	NSW marine parks	Economic issues relating to indigenous use of wild resources in NSW marine parks – scoping study.	Literature review	Campbell, D (2006)
	State-wide	A description of the Aboriginal fisheries of NSW.		Schnierer S and Faulkner A (2002)
	Coastal fringe state-wide	Comprehensive Coastal assessment. Aboriginal cultural heritage data audit.	Review of data held by OEH	Brown, S (2005)
	State-wide	Impact of management changes on the viability of Indigenous commercial fishers and the flow on effects to their communities: Case study in New South Wales.	In depth social science research using a variety of methods to gather data	Schnierer, S. and Egan, H (2012)

MARINE BIOREGION	STUDY LOCATION	TITLE/DATE	TYPE OF STUDY	AUTHOR/S
	State-wide	NSW Commercial Abalone Draft Fisheries Management Strategy, assessment of impacts on heritage and Indigenous issues	Synthesis of literature, consultation	Umwelt Pty Ltd (2005)[32]
	State-wide	Indigenous Fisheries Strategy Discussion Paper	Regional meetings	Carpenter, H (1999)
Batemans and Tweed Morton	Batemans Bay and Lismore/Byron bay	The Marine Estate Community Survey. Qualitative research phase. Appendix 4 Indigenous community	Literature review , limited interviews	Sweeney Research (2014)
TWEED- MORTON				
	Corindi beach Gumbaingirr country	The sea and the rock give us a feed	Interviews, archival research, cultural mapping	English, T (2002)
	Arakwal country	Mapping Arakwal sea country in & around the Cape Byron Marine Park	Pilot project for methodology development, some interviews	Eco-connections (2009)
	Arakwal country	Cultural Resource Use Mapping for the Byron Bay Arakwal People - Salt Water Country that is now Cape Byron Marine Park	Cultural mapping from oral history research	Eco-connections(2010)
	Tweed River catchment (Minjungbal people).	Aboriginal fisheries in New South Wales: determining catch, cultural significance of species and traditional fishing knowledge needs.	Interviews, consultation	Schnierer, S and Egan, H (2011)
	Northern NSW	A Study of Aboriginal Fisheries in northern New South Wales, Australia	Summary of results of 1999 research that included in depth interviews, questionnaires and forums	Faulkner A (2000)
MANNING				
	Wallis Lake	2006 The economic value of harvesting wild resources to the Indigenous community of the Wallis lake catchment, NSW	Interviews, systematic data collection and analysis	Gray M and Altman J (2006)
	Port Stephens Great Lakes Marine Park	Garoowa Coastal sea country report.	Interviews, archival research, archaeological literature	Sutherland, D (2011)
	Manning Valley and Forster area	Mapping attachment	interviews	Byrne, D and Nugent M (2004)
BATEMANS				

[32] This is one of a number of studies conducted by Umwelt Pty Ltd on behalf of the NSW DPI Fisheries in assessing the impacts of various commercial fisheries on Indigenous cultural heritage.

MARINE BIOREGION	STUDY LOCATION	TITLE/DATE	TYPE OF STUDY	AUTHOR/S
		Indigenous Commercial Fisheries: An analysis of commercial beach hauling in the Yuin Nation.	Documentary research Interviews Honours thesis	Edmunds, B (2008)
	Batemans Marine Park	Aboriginal connections with the NSW south coast marine environment	Workbooks, literature review, workshops	Donaldson and Feary (2013)
	Between Mogo and Narooma	Aboriginal fishing on the south coast of NSW	Court case, genealogical research	Cane, S (1998)
	Mogo LALC	Mogo LALC land and sea country plan	Interviews, workshops, some relevance to marine estate	Donaldson, S and Bazzacco, S (2015)
	Eurobodalla Shire	Connecting with Country	Interviews, fieldwork, site recording	Feary, S and Donaldson, S (2011)
	Batemans Marine Park	Indigenous customary and contemporary uses and values of marine resources in Batemans Marine Park, southern NSW: A case study of eastern Australian salmon.	Thesis research (M Env. Sc.), interviews	Waddell, J (2010)
TWOFOLD				
	Far south coast	Mutton fish. The surviving culture of Aboriginal people and abalone on the south coast of New South Wales	Interviews, Aboriginal knowledge	Cruse, B.J, Stewart, L and Norman, S (2005)
	Eden LALC	Eden LALC land and sea country plan	Interviews, workshops, some relevance to marine estate	Donaldson, S; Bazzacco, S and Cruse, B (2010)
	Far south coast Aboriginal communities	Involving Kooris in marine area management: Improving relations and facilitating communication. BA Hons thesis, ANU	Thesis research BA(Hons) , interviews	Cozens, Z (2004)

Appendix 5: Site features on AHIMS

Site features	Abbreviation	Description
Aboriginal Ceremony and Dreaming **Note:** This is not Aboriginal object and therefore not included in the legislative process.	ACD	Previously referred to as mythological sites these are spiritual/story places where no physical evidence of previous use of the place may occur, e.g. natural unmodified landscape features, ceremonial or spiritual areas, men's/women's sites, dreaming (creation) tracks, marriage places etc
Aboriginal resource and gathering **Notes:** 1. This is not Aboriginal object and therefore not included in the legislative process. 2. Not to be used for fish trap, shell or stone quarry.	ARG	Related to everyday activities such as food gathering, hunting, or collection and manufacture of materials and goods for use or trade.
Art*	ART	Art is found in shelters, overhangs and across rock formations. Techniques include painting, drawing, scratching, carving engraving, pitting, conjoining, abrading and the use of a range of binding agents and the use of natural pigments obtained form clays, charcoal and plants.
Artefacts*	AFT	Objects such as stone tools, and associated flaked material, spears, manuports, grindstones, discarded stone flakes, modified glass or shell demonstrating evidence of use of the area by Aboriginal people
Burials	BUR	A traditional or contemporary (post-contact) burial of an Aboriginal person, which may occur outside designated cemeteries and may not be marked, e.g. in caves, marked by stone cairns, in sand areas, along creek banks etc
Ceremonial ring **Note:** Does not include stone arrangements.	CMR	Raised earth ring(s) associated with ceremony
Conflict **Note:** This is not Aboriginal object and therefore not included in the legislative process.	CFT	Previously referred to as massacre sites where confrontations occurred between (1) Aboriginal and non-Aboriginal people, or (2) between different Aboriginal groups
Earth mound	ETM	A mounded deposit of round to oval shape containing baked clay lumps, ash, charcoal and, usually, black or dark grey sediment. The deposit may be compacted or loose and ashy. Mounds may contain various economic remains such as mussel shell and bone as well as stone artefacts. Occasionally they contain burials.

Site features	Abbreviation	Description
Fish trap	FSH	A modified area on watercourses where fish were trapped for short-term storage and gathering.
Grinding grooves*	GDG	A groove in a rock surface resulting from manufacture of stone tools such as ground edge hatchets and spears, may also include rounded depressions resulting from grinding of seeds and grains.
Habitation structure **Note**: Structures built for Aboriginal people by non-Aboriginal people are non Aboriginal objects and therefore not included in the legislative process.	HAB	Structures constructed by Aboriginal people for short or long term shelter. More temporary structures are commonly preserved away from the NSW coastline, may include historic camps of contemporary significance. Smaller structures may make use of natural materials such as branches, logs and bark sheets or manufactured materials such as corrugated iron to form shelters. Archaeological remains of a former structure such as chimney/fireplace, raised earth building platform, excavated pits, rubble mounds etc.
Hearth	HTH	Cultural deposit sometimes marked by hearth stones, usually also contains charcoal and may also contain heat treated stone fragments.
Modified tree*	TRE	Trees which show the marks of modification as a result of cutting of bark from the trunk for use in the production of shields, canoes, boomerangs, burials shrouds, for medicinal purposes, foot holds etc, or alternately intentional carving of the heartwood of the tree to form a permanent marker to indicate ceremonial use/significance of a nearby area, again these carvings may also act as territorial or burial markers.
Non human bone and organic material	BOM	Objects which can be found within cultural deposits as components of an Aboriginal site such as fish or mammal bones, ochres, cached objects which may otherwise have broken down such as resin, twine, dilly bags, nets etc
Ochre quarry	OCQ	A source of ochre used for ceremonial occasions, burials, trade and artwork
Potential archaeological deposit **Note**: This is not Aboriginal object and therefore not included in the legislative process unless accompanied by an object.	PAD	An area where Aboriginal objects may occur below the ground surface.

Site features	Abbreviation	Description
Shell*	SHL	An accumulation or deposit of shellfish from beach, estuarine, lacustrine or riverine species resulting from Aboriginal gathering and consumption. Usually found in deposits previously referred to as shell middens. Must be found in association with other objects like stone tools, fish bones, charcoal, fireplaces/hearths, and burials. Will vary greatly in size and components.
Stone arrangement	STA	Human produced arrangements of stone usually associated with ceremonial activities, or used as markers for territorial limits or to mark/protect burials
Stone quarry	STQ	Usually a source of good quality stone which is quarried and used for the production of stone tools
Waterhole Note: This is not Aboriginal object and therefore not included in the legislative process.	WTR	A source of fresh water for Aboriginal groups which may have traditional ceremonial or dreaming significance and/or may also be used to the present day as a rich resource gathering area (e.g. waterbirds, eels, clays, reeds etc)

Appendix 6: Aboriginal terms describing marine places and resources

ABORIGINAL PLACE NAMES NSW COASTAL REGION		
PRESENT DAY NAME	ORIGINAL NAME	REFERENCE
Ballina	Bullina	Rankin in Tindale 1940
Brunswick River	Durrumbul	N/A Arakwal
Julian Rocks	Nguthungulli	N/A Arakwal
Byron Bay	Cavanbah	N/A Arakwal
Bellinger River	Bindarray Yurruun	Morelli 2008
Coffs Harbour	Garlambirla	Morelli 2008
Mutton Bird Island	Giidany Miirlarl	Morelli 2008
Nambucca Heads	Nyambaga	Morelli 2008
Yamba	Yambaa	Morelli 2008
Lake Macquarie	Awaba	Tindale 1940
Middle Harbour [Port Jackson]	Warringa	Attenbrow 2010
Darling Harbour	Tambulong	Attenbrow 2010
Cooggee	Koojah	Attenbrow 2010
Bondi	Bondi	Attenbrow 2010
Shark Island	Boamillie	Attenbrow 2010
Georges Basin	Biriwiri	Eades 1976
Bherwerre Peninsula	Perrtwerry	Morris 1832
Ulladulla	Ulladera	Morris 1832
Congo	Canga	Morris 1832
Montague Island	Baranguba	Townsend 1845
Pambula	Parnbuller	Robinson 1844
Merimbula Point	Murimbiller	Robinson 1844
Disaster Bay	Tartarerer	Robinson 1844
Green Cape	Pundowero	Robinson 1844

Dharawal terms from Eades 1976	
TERM	MEANING
bunga	fish
bambi	eel
marida	fish hawk
yanga	lobster
bimbala	abalone
gurun	shell on rock
bilima	turtle
bariguwan	salmon
Mara mara	mullet
gadu	sea close by
nauwan	sea distant
nadu	fresh water
bada	creek or river
wudid	sand

mangna	canoe
barnga	large canoe
wulban	paddles
warura	fishing line
dula	fish hook
wadbgan	mythical creature near sea
bombora	hidden rock reef at sea
dadun	moon
gurgama	Westerly wind
dulma	Northerly wind
barnun	North easterly wind
yilma	Southerly wind
mardi	Easterly wind

Appendix 7: Aboriginal use of abalone [*walkun*]

On the NSW south coast, the contents of hundreds of shell middens have been scientifically analysed and faunal lists prepared, frequently to species levels. While abalone shell has been identified in at least 50% of the middens, none have abalone as the dominant species. Even middens excavated at Discovery Bay on the far south coast, in abalone heartland, showed that abalone formed only 1% by weight of the assemblage.

Aboriginal oral traditions tell a very different story. There are strong and consistent assertions by local Aboriginal people that abalone has always been important as a food and for cultural reasons (Cruse, et al., 2005). Umwelt (2005) states that abalone has spiritual value. A list of favoured species harvested today in NSW had abalone at the top (Schnierer & Faulkner, 2002).

Potential explanations for low amounts of abalone in shell middens

1. Nacreous shell of abalone breaks down faster than shell of other species because it is made from aragonite rather calcite, hence it is not so well preserved in middens (Feary, 1981).

2. Shells of abalone were not shucked where they were eaten, but were shucked on the beach and have been washed away over time. This is strongly supported by oral history. Ossie Cruse describes how mutton fish (abalone) was always shelled and pounded on the rock platform immediately after harvesting. Only the meat was taken away for cooking at the main camp, with most shells left on the rock platform, where they would later be washed back into the sea rather than incorporated into the archaeological record (Cruse, et al., 2005). Marcia Ella Duncan recalls the cultural protocols associated with preparing abalone:

> *' … My early memories at Potato Point are of the fellas diving for and shucking abs, whilst the women and kids did the cooking. The process was headed by Nan Stewart and mum, who were sitting on the rocks directing the production line, it was all very ordered, " … those ones need to be bashed, those ones needed cleaning, you need to go diving", they'd say. The abs were always shucked on the rocks where they were caught, Nan Stewart would tell us to do it this way, "you can't eat mutton ears if they are not shucked on the rocks ... " She would count how many people, how many abs, " … that's it now … ". There is a ritual of catching and eating abs; it is directed by the women … ' (*Marcia Ella Duncan, pers. comm. 5.1.2006 i*n* (Donaldson, 2006) *).*

Shucking on the beach does not appear to have been used with any other species of shellfish with the majority of midden evidence suggesting that shellfish processing occurred at or close to camping sites. The presence of some abalone in middens indicates that not all shells were shucked on the beach.

3. Abalone shell has not accumulated in middens because it was used for other purposes, such as making fish hooks.

4. The low density of abalone shell relative to other species is an accurate reflection of traditional subsistence. Abalone may not have been an important component of the traditional diet and became more important with arrival of Chinese and development of the abalone commercial fishery in the 1960s.

The reason why physical evidence of traditional evidence of abalone harvesting is relevant to this project is that abalone is an iconic species often used by Aboriginal to demonstrate traditional cultural practices. Aboriginal men have been charged for collecting abalone on the far south coast on several occasions since the early 1990s. The Aboriginal families involved in a landmark court case, in the early 1990s - Mason v Triton - defended a prosecution for illegal fishing on the basis of traditional rights, and the presence of abalone in middens was used as evidence (Cane, 1998).[33] The traditional use of abalone was not questioned, but the archaeological evidence may not have stood up to closer scrutiny without corroboration from Aboriginal people's oral accounts of how abalone was harvested in the past.

[33] The case was eventually lost on the basis that evidence was not provided to show the catch was not taken for sale.

Appendix 8: Likelihood and consequences levels as defined by MEMA.

Social objective: To provide for recreational, cultural and social uses of the marine estate

Consequence level	Consequence of impacts on social benefits
Insignificant	No discernible negative impacts on social benefits are or will be evident at a state-wide scale or to regional communities
Minor	Barely discernible and/or temporary negative impacts are or will be evident on social benefits at a state-wide scale or to regional communities
Moderate	Measurable and ongoing negative impacts are or will be evident on social benefits enjoyed by the NSW community at a state-wide scale, or major negative impacts on the social benefits derived in one region
Major	Substantial measurable and ongoing negative impacts are or will be evident on social benefits enjoyed by communities in multiple regions or at a state-wide scale, or a catastrophic negative impact on social benefits at a regional level
Catastrophic	Substantial measurable on-going negative impacts on a very large proportion of the NSW community are or will be affected, and the long-term social benefits expected from the NSW marine estate are endangered either permanently or over the long term

Likelihood level	Likelihood of impacts
Rare	Never reported for this situation, but still plausible within the timeframe (< 5%)
Unlikely	Uncommon, but has been known to occur elsewhere. Expected to occur here only in specific circumstances within the timeframe (5-30%)
Possible	Some clear evidence exists to suggest this is possible in this situation within the timeframe (30-50%)
Likely	Expected to occur in this situation within the timeframe (50-90%)
Almost certain	A very large certainty that this will occur in this situation within the timeframe (>90%)