

NSW FISHERIES



**NSW OCEAN HAULING FISHERY
MANAGEMENT STRATEGY
ASSESSMENT OF IMPACTS ON
HERITAGE AND INDIGENOUS ISSUES**

Prepared by:

Umwelt (Australia) Pty Limited
Environmental and Catchment Management Consultants

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1.0 INTRODUCTION

The draft Ocean Hauling Fishery Management Strategy (October 2001) has been prepared by NSW Fisheries to fulfil the requirements of the Fisheries Management Act 1994. The strategy sets out the objectives of this sector of the NSW commercial fishery, together with a vision for the future sustainable management of the fishery. It also documents how the fishery will be managed, including rules for access and operation, performance indicators, monitoring regimes and triggers for review.

Prior to the finalisation of the Ocean Hauling Management Strategy (OHFMS), an environmental impact assessment under the provisions of the Environmental Planning and Assessment Act 1979 (EP&A Act) is required. The Department of Urban Affairs and Planning (DUAP) has provided Director General's Requirements for the preparation of an Environmental Impact Statement and a Planning Focus Meeting has been held to clarify the issues of concern to key stakeholders, that must be addressed in the EIS.

In the case of the OHFMS, the activity for which approval is sought under Part 5 of the EP&A Act is the commercial taking of finfish for sale from ocean waters using hauling nets shot from and retrieved to beaches or shot from and retrieved to licensed fishing boats, and the use of purse seine nets. The use of the lift net by licensed commercial fishers to take bait for tuna operations is also managed by the ocean hauling fishery.

A wide range of species are landed within this fishery however, more than 99% of the catch comprises 19 species. These include Australian salmon, yellowtail, mackerel, sea mullet, sweep, whiting, bream, trevally, dart, garfish and pilchard.

Not all beaches and ocean waters are open to the ocean hauling fishery. The Fisheries Management Act authorises a number of beach and ocean water closures that restrict the areas in which the ocean hauling fishery may operate. Some areas are also closed because they have been declared marine protected areas or marine extensions of National Parks.

The activity that is being assessed in this EIS includes the actual fish catching activities from beaches and boats. Land based activities that are peripheral to the various methods of catching fish are not included in this environmental impact assessment. These land based activities include boat launching, storage and maintenance areas, and net storage and maintenance areas. In general, these activities are likely to be covered by a range of existing development consents under the planning regulations applying in the local government area in which they are located.

A Code of Conduct for ocean hauling specifies that fishers will operate only on the beach, using designated access ways that have been approved by NPWS. Commercial beach haulers must not drive on frontal dune systems or use other parts of coastal dune systems in any way.

This document addresses the issues that have been noted in the Director General's Requirements in relation to heritage and Indigenous matters.

1.1 DIRECTOR GENERAL'S REQUIREMENTS

The issues that must be assessed in relation to heritage matters are noted in Section 2.3 of Part H (Social Issues) of the Director General's Requirements:

- (a) Identify shipwreck sites or other sites of historic heritage that are likely to be affected by fishing activities and outline measures to minimise risk of harm to these sites.

- (b) Identify any important Aboriginal heritage sites/places used by fishers and outline protocols/measures to be developed in consultation with representatives of the Aboriginal community to minimise risk of harm to these sites.

The issues that must be assessed in relation to Indigenous issues are noted in Section 3 of Part H of the Director General's Requirements:

- (a) Identify the interests of Indigenous people in the resources harvested by the fishery and in habitats that may be impacted by the proposed activity.
- (b) Assess the impacts of the activities proposed to be authorised by the management strategy on Indigenous interests. In particular, assess the impacts of implementing the strategy on:
1. traditional fishing, including access, participation and culture (such as places of significance - middens, totemic symbols etc);
 2. Indigenous communities' well being, including economics, employment and community viability; and
 3. government policies on Indigenous fisheries issues, including the NSW Indigenous Fishery Strategy.
- (c) Mitigation and management measures.

1.2 SCOPE OF STUDY AND ASSESSMENT

This assessment is presented in three main parts.

Section 2 of the document deals with European heritage issues. European heritage sites, reflecting the importance of maritime activities in the past development of NSW, are widely distributed along the NSW coastline, with (for instance) some 1500 shipwreck sites recorded. This assessment considers potential impacts of ocean hauling fishing activities on those European heritage sites that are listed in inventories maintained by The NSW Heritage Commission, the National Estate, and the Australian Shipwreck register. It is considered that there is a low risk that ocean hauling fishing activities will impact on these sites, although some shipwreck sites may present safety risks to ocean hauling fishers in boats. In this context, the assessment does not explore the historical details for European heritage sites.

The assessment presented in **Section 2** uses the historic heritage information for one section of the coastline (Newcastle and Stockton Bight) to illustrate the types of information that is available and the possible interactions between ocean hauling fishers and historic heritage items.

The Director-General's Requirements in relation to Aboriginal heritage sites relate to the identification of Aboriginal sites or places that are used by (ocean hauling) fishers, and preparing protocols to minimise the risk of harm to these sites by ocean hauling fishery activities.

There is abundant ethnographic and archaeological evidence for past use of beaches, headlands, dunes and nearshore waters by Aboriginal people, and of the importance of resources from these environments to Aboriginal economies and lifestyles. This evidence is described in **Sections 3.2.1 to 3.2.4**.

Known Aboriginal sites are recorded in the NPWS Aboriginal Sites Register, and there are many hundreds of known sites located along beaches and in associated coastal dune systems. Middens are reported from many beaches (although the distribution of known midden sites is heavily

influenced by the nature of the beach and dune system). In addition to the known sites in this landscape context, there is potential for archaeological evidence to be present that is not yet recorded in the NPWS Register. Some of this evidence may be known to local Aboriginal people, and some is sub-surface evidence that has no surface expression unless disturbed by processes such as excavation and land clearing.

In assessing the existing and potential impacts of activities that would be authorised under the OHFMS on known Aboriginal sites, a strategic approach has been taken.

Within the seven main beach hauling regions along the NSW coast, there are hundreds of beaches that are used by commercial fishers for at least part of the year. The major commercial fishing grounds in each region are designated traditional hauling grounds and, for example, there are 17 traditional hauling grounds identified within region 7 (far south coast). Shared hauling grounds refer to most of the coastline, where commercial fishing activities occur with other users.

A search of the NPWS Aboriginal Site Register for each of these beaches would require consultation with each coastal Land Council, to obtain permission to gain access to large amounts of culturally sensitive data. This is not practical within the scope of this EIS process. In addition, the extent of the impact of ocean hauling fishing on physical evidence of past Aboriginal occupation does not justify the mapping of every known site along beaches. Neither is it appropriate that the locations of such a large number of coastal Aboriginal sites be made public in one publication.

Instead, **Sections 3.2.1 to 3.2.4** synthesise the information that is available about the ways that Aboriginal people used and valued coastal resources in the past, and discuss the types of risks to sites that could be associated with ocean hauling fishery activity. **Section 3.3** discusses options for minimising the risk to Aboriginal sites and places.

The extent of Aboriginal cultural heritage and contemporary Indigenous issues related to the ocean hauling fishery is not directly related to the size of the commercial fishery with any region. The total ocean hauling catch, and the most important species vary considerably between zones. For instance, Region 1 (far north coast) has the highest total ocean hauling catch and the highest Pilchard catch, but no Australian Salmon is landed in this zone. The biggest Australian Salmon catch is in Region 7 (far south coast) which has very small catches of sprat and pilchards. Issues about Indigenous access to the ocean hauling fishery are reported by the Aboriginal community from many other locations. The issues are frequently associated with the regulatory framework for the fishery, rather than the scale of individual enterprises in any one location. This matter is discussed further in **Section 4**.

It is important to note that there are several other concurrent policy development initiatives by NSW Fisheries that will affect the interaction of Aboriginal fishers with the commercial ocean hauling fishery. In particular, NSW Fisheries is currently working with the Aboriginal community to develop an Indigenous Fishery Strategy that will provide a new framework for the management of Indigenous and commercial fisheries. The information presented in this assessment draws on the work in progress towards the Indigenous Fishery Strategy, and outlines a process for ongoing review of regulatory relationships, but in no way pre-empts the outcomes of that strategy.

2.0 HISTORIC HERITAGE

This section reports the results of a review of the historic heritage that is located within the precincts of the NSW coastline. The review of historic heritage has defined those elements of the resource that are, or appear to be, located in such a position that either ocean hauling commercial fishing operation might have some impact on an element or vice versa.

For the purposes of this report, historic heritage has been differentiated between the transport and structural contexts. This differentiation is essentially dictated by the base source(s) or recording database(s) from which data has been derived. The transport context is specifically represented in the record of shipwrecks. The structural environment includes such resources as landing ramps, seawalls, breakwaters, piers and boat harbours, but also includes such developments as groynes and piles.

2.1 TRANSPORT HERITAGE

This section addresses shipwrecks that have been recorded along NSW beaches. It is heavily based on data contained in the Australian National Shipwreck Database (ANSD), which is maintained by the Australian Institute for Marine Archaeology. Only a sample of the information from the ANSD has been analysed (for the Newcastle / Stockton coastline). This area has a strong maritime history and high concentration of beach / nearshore shipwrecks and is a recognised ocean hauling fishing ground. This section of the coastline is also subject to significant wind and wave erosion, so that there is a risk that old features may be exposed after storms. In this sense, this example illustrates the “worst case” potential interaction between ocean hauling fishers and coastal historic heritage features.

2.1.1 Methodology

For this component of the study, the sources of data were the ANSD with additional source material obtained from:

- *The Register of British Shipping*;
- Annual reports of government departments, particularly in the latter quarter of the 19th Century;
- The Register of the National Estate, maintained by Environment Australia;
- The (NSW) State Heritage Register, maintained by the NSW Heritage Council;
- The (NSW) State Heritage Inventory, maintained by the NSW Heritage Council;
- *Bar Dangerous: A Maritime History of Newcastle* (Callan 1986) and *Bar Safe* (Callan 1994);
- Index of shipwrecks on the NSW Coast Between the Hawkesbury and Manning Rivers, 1788-1970 (Fletcher nd);
- *Australian Shipwrecks* (Loney 1980);
- *Shipwreck Atlas of New South Wales* (NSW Heritage Office 1996);
- *Centenary: NSW Steamship Wrecks* (Parsons 1995);
- *Scuttled and Abandoned Ships in Australian Waters* (Parsons & Plunkett 1998);
- Navigational charts of the coastline and estuaries; and
- Information from statewide and local newspapers.

The sources of data are collectively referred to as ‘the marine archaeological record’ and are appropriately referenced in the following material and particularly in appendices.

Search of the marine archaeological record indicated that nearly 1500 shipwrecks have been recorded along the New South Wales coastline. One of the difficulties posed by the ANSD, and by the marine archaeological record generally, was that the location of many shipwrecks could not be specified with any degree of accuracy, particularly regarding shipwrecks of the 19th Century. The judgment involved in differentiating inshore from estuarine and offshore shipwrecks was guided by the following criteria:

1. Detail of the geographical location of the wreck and/or precision in description of geographical features relevant to the wreck. For example, while a wreck described as located on the oyster bank is relatively definitive, one that refers to the wreck location as being simply 'Port Stephens' may refer to the estuary, or offshore or inshore but a reference to 'Hannah ([sic: Anna] Bay' will probably place the wreck in inshore waters;
2. The nature of the vessel's voyage, eg. international, inter-colonial, coastal intra-state, or port service. Thus, a vessel described only as having been wrecked 'off Sydney' in transit from Valparaiso to Newcastle will have been unlikely to have been inshore at that stage of the voyage;
3. The origin and destination of the voyage: for instance, a vessel (particularly a sailing packet), engaged on a late 19th Century voyage from Brisbane to Sydney, wrecked off Port Macquarie will be considered sufficiently likely to have been wrecked inshore to be scheduled;
4. The circumstances of the loss, eg. navigation error, failure of equipment, condition of wind and/or weather. The examples of such causes are boundless and need to be read in conjunction with criteria 3 and 4 above.

Greater precision in describing the disposition of shipwrecks could only be achieved by research of primary sources.

2.1.2 Results

By an application of the judgment criteria to the raw results of researching the marine archaeological record, approximately 1100 shipwrecks appear to be located within New South Wales non-estuarine inshore waters. Of these approximately 150 are recorded along the Newcastle / Stockton coastline.

It is clear from **Appendix 1** that it is difficult to pinpoint the locations of these wrecks, or the amount of wreckage that may still remain, with any certainty.

2.2 STRUCTURAL HERITAGE

This section is concerned, essentially, with all historic heritage resources, other than shipwrecks, that have been recorded along NSW beaches and is based on data contained in National, State, regional and local heritage reviews.

2.2.1 Methodology

For this component of the study, research was directed mainly to the following base records:

- The Register of the National Estate (RNE), maintained by Environment Australia;
- The (NSW) State Heritage Register, maintained by the NSW Heritage Council; and

- The (NSW) State Heritage Inventory, maintained by the NSW Heritage Council.

Other sources considered for some specific sites were:

- Statutory studies and reports at local and regional level of historic heritage resources;
- Studies relating to coastline and estuary management strategies;
- The studies and reports by archaeologists, of specific historic heritage resources;
- Navigational charts of the coastline; and
- Information from statewide and local newspapers.

The sources of data are collectively described as ‘the archaeological record’ and are appropriately referenced in the following material (see also **Appendix 2**).

The level at which a site is recorded, on the RNE, the SHR, or in a REP or LEP, is a basic indication of the level of cultural significance attached to the site. An abstract of the concept of cultural significance is contained in **Section 2.3**.

Some questions regarding the relationship of individual resources to inshore waters were raised by the heritage records. In general, the location of resources in the RNE and SHR were specific but those of REPs and LEPs were less so. In cases of doubt, the following criteria were applied:

1. the probable limit of tidal influence and navigability in inshore waters by reference to maps and charts;
2. more precise location of sites by the use of peripheral or explanatory data. For example, reference to connection to another known inshore heritage site or material.

2.2.2 Results

As for the shipwreck data, an example of the types of information that can be obtained from various sources in relation to structural historic heritage is presented in this analysis. The features that are listed in **Appendix 2** relate to the Newcastle local government area.

Appendix 2 sets out:

- the name of the site, item or resource;
- the status of the site, item or resource in the RNE process;
- the date of construction or an indication of the age of the resource;
- the location of the resource;
- the reference to the database entry of the resource in the RNE (the RNEDB), SHR or SHI; and
- the level of heritage listing, which indicates the level of significance that has been accorded to the resource.

All of the structural features listed in **Appendix 2** relate to the headlands and rocky coastline, or to beaches or features constructed at the back of the beach. It is highly unlikely that any licensed ocean hauling fishers would be operating in a manner that would affect any of these features.

Apart from access and interaction with other users, commercial fishers would not risk their equipment on these rocky shorelines or small pocket beaches.

2.3 THE CONCEPT OF SIGNIFICANCE

The extent to which an item of historic heritage is a constraint to future development depends largely on the assessment of its significance. This section explains the concept of cultural significance and the following section notes the significance that has been attributed to various heritage resources. The protection afforded by Commonwealth and State heritage and planning legislation is also noted.

The Heritage Act, 1977 (NSW) defines items of environmental heritage to be:

Those buildings, works, relics or places of historic, scientific, cultural, social, archaeological, architectural, natural or aesthetic significance for the state of New South Wales.

In the context of this report, significance is the measure of the value and importance of elements of the archaeological record to cultural heritage. While the fabric of the archaeological record is the subject of the assessment of heritage significance, the assessment itself is conditioned by the environmental and historic context of the site. Furthermore, an evaluation of heritage significance is not static but evolutionary, as a function of evolving community perspectives and cultural values.

The Australia ICOMOS Charter for the Conservation of Places of Cultural Significance (the Burra Charter) classifies the *nature* of cultural significance in terms of historical, aesthetic, scientific and social criteria. The implications of these classifications are as follows:

- Aesthetic significance addresses the scenic and architectural values of an item and/or the creative achievement that it evidences. Thus, an item achieves aesthetic significance if it has visual or sensory appeal and/or landmark qualities and/or creative or technical excellence;
- Historical significance considers the evolutionary or associative qualities of an item with aesthetics, science and society, identifying significance in the connection between an item and cultural development and change;
- Scientific significance involves the evaluation of an item in technical and/or research terms, considering the archaeological, industrial, educational and/or research potential. Within this classification, items have significance value in terms of their ability to contribute to the better understanding of cultural history or environment and their ability to communicate, particularly to a broad audience within a community; and
- Social significance is perhaps the most overtly evolutionary of all classifications in that it rests upon the contemporary community appreciation of the cultural record. Evaluation within this classification depends upon the social spiritual or cultural relationship of the item with a recognisable community. (Marquis-Kyle & Walker 1992, 21-23).

Historical study looks to the documentary record of human development and achievement, as interpreted by the authors of the documents that comprise the primary and secondary resources. In parallel, historical archaeology is concerned not only with the documentary record but also with material evidence. The archaeological record may provide information not available from historical sources. An archaeological study focuses on the identification and interpretation of material evidence to explain how and where people lived, what they did and the events that influenced their lives. Considerations material to archaeological study include:

- Whether a site, or the fabric contained within a site, contributes knowledge or has the potential to do so (perhaps, whether the archaeological record validates or contradicts the historical). If a site can contribute knowledge within the *nature* criteria above, the availability of comparative sites and the extent of the historical record should be considered in assessing the strategies that are appropriate for the management of the site; and
- The level at which material evidence contributes knowledge in terms of current research themes in historical archaeology and related disciplines.

The 'level of contribution' is thus a critical determinant and is assessed according to the same protocols as is cultural significance, that is, in terms of representativeness/rarity and local/regional/state associations.

In relation to "research themes and historical archaeology and related disciplines", the direction of historical archaeology implies, and is conditioned by, consideration of historic, scientific, cultural, social, architectural, aesthetic and natural values. It is a convenient method of classifying the values of material evidence, within the Nature criteria above, in terms of the following broad model:

- *Historical* value lies at the root of many of the other values by providing a temporal context and continuity, thereby providing an integrating medium for the assessment of social, cultural and archaeological significance;
- *Scientific* value depends upon the ability of an item to provide knowledge contributing to research in a particular subject or a range of different subjects;
- *Cultural* value attaches to artefacts which embody or reflect the beliefs, customs and values of a society or a component of a society and/or have the potential to contribute to an understanding of the nature and process of change and its motivation;
- *Social* value derives from the way people work(ed) and live(d) and from an ability to understand the nature, process of change and its motivation. Social significance is closely related to cultural significance, in its concern with the practicalities of socio-cultural identification;
- *Architectural* value depends on considerations of technical design (architectural style, age, layout, interior design and detail), the personal consideration (ie. the work of a particular architect, engineer, designer or builder) and technical achievement (construction material, construction technique, finish);
- *Aesthetic* value addresses the manner in which an item comprises or represents creative achievement, epitomising or challenging accepted concepts or standards; and
- *Natural* value attaches to items that either support or manifest existing natural processes and/or systems or which provide insights into natural processes and/or systems.

Within this general framework, the assessment of significance is made in the light of two distinct measures : the degree of significance and the level of significance.

- The *degree of significance* of heritage material is evaluated as being either *representative* or *rare*. *Representative* items are those which are fine distinctive, characteristic and/or illustrative examples of an important class of significant item or a significant aspect of the environment. *Rare* items are those which singularly represent or represent an endangered, discrete, or uncommon aspect of, history or cultural environment. By derivation, items considered within

the context of broader investigation as being insignificant may be dismissed by an evaluation of *little or none*;

- The *level of significance* of heritage material is assessable in five classifications depending upon the breadth of its identifiable contemporary community or historical or geographical context. Thus –
 - a *local* classification recognises an item as being significant within a local historical/geographical context or to an identifiable contemporary local community;
 - a *regional* level of significance recognises the item as significant within a similar regional historical/geographical context or identifiable contemporary regional community; and
 - a *state* level of significance identifies that item as significant in a statewide historical/geographical context or to an identifiable contemporary statewide community (Heritage Office 1996, 4-7).

and by derivation:

- a *national* level of significance attaches to an item that is significant in a nationwide historical/geographical context or to an identifiable contemporary nationwide community; and
- an *international* level of significance has the appropriate connection to international context or the international community.

2.4 ISSUES FOR FUTURE MANAGEMENT

This section identifies issues that are material to the management of heritage resources in the context of the use of NSW inshore waters for commercial fishing.

2.4.1 National Constraints

Appendix 1 tabulates the shipwrecks that are recorded in the marine archaeological record. Apart from general heritage and planning legislation at Commonwealth and State levels, these shipwrecks may be protected under the *Historic Shipwrecks Act 1976*. The Act applies within Commonwealth waters and, upon the declaration by a State that the Commonwealth act so applies, to the waters of a State. New South Wales has made such a declaration. The *Historic Shipwrecks Act, s4A*, sets out the base criteria for consideration of a shipwreck as historic as being that the shipwreck be:

- (a) *situated in Australian waters, or waters above the continental shelf of Australia, adjacent to the coast of a Territory; and*
- (b) *at least 75 years old.*

The Act further provides that:

- the Minister may declare historic the remains of disturbed or fragmented shipwrecks and artefacts related to shipwrecks (s4A(5), –(6), –(7));
- whether or not within the base criteria, the Minister may declare historic individual shipwrecks, the individual remains of disturbed or fragmented shipwrecks and individual artefacts related to shipwrecks (s5);

- whether or not within the base criteria, the Minister may make a provisional declaration of a shipwreck or of artefacts associated with a shipwreck pending determination (s6);
- the Minister may declare a ‘protected zone’ not exceeding 200 hectares as the curtilage of a shipwreck (s7);
- upon publication in the Gazette of a notice declaration a shipwreck and/or site and/or article historic, a person holding an artefact related to the declaration must give it to the Minister (s9) and the minister is empowered to demand the surrender of such an article by notice (s10);
- the Minister may give directions as to the custody of material the subject of declaration (s11);
- It is an offence to destroy, damage, disturb or interfere with an historic shipwreck or artefact or to attempt to dispose of any material to which a declaration applies (s13);
- It is an offence to enter a protected zone with tools, explosives, equipment for diving and/or conducting any prohibited activities; to trawl, dive or undertake any other underwater activity; or to moor (s14);
- the Minister is empowered to issue permits to allow the exploration or recovery of a shipwreck or artefacts associated with a shipwreck (s15); and
- Any person discovering a shipwreck or artefacts from a shipwreck must report the find to the Minister (s17).

and provides penalties for offenders against its provisions.

In addition to the above, **Appendix 2** tabulates resources that have been assessed as being of National significance. For these items/places the requirements of the *Australian Heritage Commission Act 1975* must be taken into account in management planning that affects those resources. The *Australian Heritage Commission Act* contains few constraints other than against Commonwealth agencies and against the removal of resources from Australia. However, the Commonwealth Government currently proposes to extend substantial protection to resources registered in the RNE by devolution of heritage administration to the *Environment Protection and Biodiversity Conservation Act 1999* from the *Australian Heritage Commission Act 1975*. It is anticipated that the levels of protection afforded by this amendment will be at least as stringent as that provided by the (NSW) *Heritage Act 1977*.

2.4.2 State Constraints

Appendix 2 tabulates resources that have been assessed as being of State significance. The requirements of the (NSW) *Heritage Act 1977* must therefore be taken into account by any management planning that affects those resources. The *Heritage Act* established measures for the protection of heritage resources. Heritage sensitivity may be indicated by historical research and/or by various on-site archaeological surface surveys. The discovery of relics is highly likely once soil is disturbed in circumstances where either historical research or archaeological surface survey indicates sensitivity. The *Heritage Act* defines a relic as:

Any deposit, object or material evidence –

- (a) *which relates to the settlement of the area that comprises NSW, not being Aboriginal settlements; and*

(b) which is 50 or more years old.

The Act further provides that:

- Sites and relics in a range of descriptions are protected from disturbance and damage (ss. 24-34, 35A-55B, 130, 136-7, 139);
- Relics may be the subject of conservation orders (ss. 26(2)(b), 35A,36,37, 44);
- Relics are protected on the ground on all sites (ss. 26(2)(a), 35A36, 37, 44);
- Approval of excavation is required if a development site is listed on the NSW Heritage Register (s. 60);
- No disturbance or excavation may proceed for the discovery of relics (not subject to a conservation instrument) except with an Excavation Permit (s. 139);
- An excavation permit is required if a site is not the subject of an order under the Heritage Act (s. 140);
- Location of sites must be reported to the Heritage Council (s. 146); and
- Recovery of relics from excavation must be reported to the Heritage Council (s. 146A).

and provides penalties for offenders against its provisions (s. 157).

2.4.3 Regional and Local Constraints

Appendix 2 also tabulates 11 resources that have been assessed as being of Regional or Local significance. The requirements of the (NSW) *Environmental Planning and Assessment Act 1979* must be taken into account by any management planning relating to those resources. The *Environmental Planning and Assessment Act* established measures for the protection of heritage resources, substantially the equivalent of the protection provided by the *Heritage Act*. The *Environmental Planning and Assessment Act* provides for sites to be scheduled as:

- Heritage items in terms of local, regional and State significance (ss. 24-72);
- Sites in development control plans or subject to development controls (ss. 37-9, 76); and
- Subject to planning controls or additional conservation provisions (ss. 37-9, 76);

and provides further that relics fixed to land may be scheduled, as may relics associated with heritage items in schedules (ss. 24-74). The Act also specifies penalties for offences.

2.4.4 The Interaction of Commercial Fishing with Historic Heritage Resources

The activities associated with commercial fishing are limited to associated boating, foreshore access and the use of a variety of nets.

The physical and spatial presence of heritage resources along ocean beaches is likely to have only a marginal effect on commercial fishing operations. With regard to shipwrecks, it appears likely that commercial fishing will have no impact on residual material evidence, having regard to the likely nature, bulk and mass of any residual material and the potential for sub-surface material to be

covered by silt/sand. Nonetheless, in the reverse situation, it is possible for residual wreckage to pose a hazard, as a potential snag for nets or trailed lines.

Otherwise, it is appropriate to observe that the greater potential for impact on historic heritage resources will arise from the construction, maintenance and repair and/or extension of shore-based infrastructure, peripheral or complementary to commercial fishing activity. Some such activity may be directly subject to external regulation, but it is pertinent to draw attention to the need for care in the management and/or repair of shore-based facilities.

2.5 RECOMMENDATIONS

These recommendations are made on the basis of:

- the limited review of historical context of the coastal precincts contained in this report;
- the review of the archaeological context of the coastal precincts contained in this report;
- the limited descriptions of the fabric and the precise locations of some of the material evidence of estuaries, particularly relating to shipwrecks;
- synthesis of the archaeological and historical contexts that is available from the reviews;
- the appreciation of the significance of the heritage resources;
- consideration of the management issues and potential impacts of the proposed use;
- discernment of the potential affects of commercial fishing styles; and
- recognition that the greater potential for impact on historic heritage resources is likely to arise from activities peripheral to commercial fishing.

It is recommended that:

1. In general in connection with the development, the attention of all authorities and agencies has been, and that of all commercial fishers, their contractors and employees will be, directed to the provisions of the NSW *Heritage Act* 1977 and in particular to:
 - (i) the definition of relic under that Act;
 - (ii) the provisions of sections 24-34, 35A-55B, 130, 136-7, 139 and 140 of that Act;
 - (iii) relics may be exposed on beaches and frontal dune systems that are frequented by licensed ocean hauling fishers, particularly after storms. If an item suspected of being part of a historic site (shipwreck or other) becomes visible when it was previously buried by sand, it should be reported to the heritage office and local Council.
 - (iv) if any activity is proposed that will, or may, cause the disturbance of a resource that is registered on the SHR, the requirement for grant of an Approval under s.60 of the Act;
 - (v) if any activity is proposed that will, or may, cause the disturbance of a resource that is not registered on the SHR, the requirement for grant of an Excavation Permit under s.140 of the Act;
 - (vi) the basic requirements that, in relation to any development, if:

- a relic (whether *transport* or *structural* within the definition of this report) is suspected, or there are reasonable grounds to suspect a relic in ground, that is likely to be disturbed damaged or destroyed by excavation;
- any relic is discovered in the course of excavation that will be disturbed, damaged or destroyed by further excavation;

the developer must notify the Heritage Office of New South Wales and suspend work that might have the effect of disturbing, damaging or destroying such relic until the requirements of Heritage Office have been satisfied (a requirement capable of being obviated by the prior issue of an Excavation Permit).

2. In relation to any proposed development of ancillary facilities associated with commercial fishing activities from ocean beaches, potential to impact on heritage resource(s) must be considered. The developer shall commission a study and report by an appropriately qualified person of the heritage values of the area potentially to be affected by the proposed development. Presumably any such report would form part of the process of the development application to the relevant approval authority.

3.0 ABORIGINAL HERITAGE

3.1 STATUTORY CONTEXT

All evidence of past Aboriginal occupation in NSW is protected under the provisions of the National Parks and Wildlife Act 1974 (NPW Act), regardless of its significance or the tenure of the land on which it is located. Each individual item of physical evidence of past Aboriginal cultural activity in the landscape is defined by the NPW Act as a “relic”. Aboriginal sites are localities that include or display one or more pieces of this evidence. For instance, a site may be identified by the observation, on or below the ground surface, of a single piece of flaked stone (isolated artefact), or by an accumulation of many (often thousands) of pieces of flaked stone (open campsite or open artefact scatter). Aboriginal sites also include middens, rock shelters with cultural deposit or art, stone arrangements and structures, scarred and carved trees, and burials. Open campsites or artefact scatters are the most common type of occupation evidence in NSW generally; however, along the coast, midden sites are very common, reflecting the importance of shellfish and fish in the coastal diet and the robustness of shellfish remains in the landscape.

Aboriginal places that have been declared by the Minister for the Environment and duly gazetted are also protected by the NPW Act. An Aboriginal place is a place in the landscape that has spiritual significance for Aboriginal people, but where there is not necessarily any physical evidence of past Aboriginal occupation.

It is an offence under the NPW Act to knowingly deface, damage or destroy an Aboriginal “relic” (as defined by the Act) or Aboriginal place without the prior written consent of the Director-General of National Parks and Wildlife Service (NPWS). This consent is obtained through an application under Section 90 of the Act for Consent to Destroy. It is NPWS policy that applications for Consent to Destroy must be accompanied by written evidence of consultation with the representatives of the local Aboriginal community, and it is unlikely that NPWS would grant a Consent to Destroy in cases where the local Aboriginal community had not supported the application.

The NPW Act does not define “knowingly”. However, NPWS does provide guidance as to what constitutes a “known” site in relation to development that is assessed as integrated development. An Aboriginal site is considered to be known if:

- It is registered in the NPWS Aboriginal sites register; and/or
- It is an Aboriginal site known to the Aboriginal community; and/or
- It is located during surveys or test excavation conducted prior to the lodgement of a development application.

This definition makes it clear that it is incumbent on a proponent to consult with the local Aboriginal community and to conduct appropriate research into records of archaeological evidence, prior to commencing a development that will disturb the land surface.

In this environmental assessment, the risks to specific individual Aboriginal sites have not been identified. Risk has been assessed at a strategic level, in terms of the types of evidence that can be expected to be located along the beaches, headlands and associated coastal dune systems and the aspects of the proposed activity that have the potential to have an impact on those types of archaeological evidence.

3.2 ARCHAEOLOGICAL AND ETHNOGRAPHIC EVIDENCE FOR ABORIGINAL USE OF COASTAL FISHERY RESOURCES IN NSW

In general, the archaeological and ethnographic evidence clearly indicates that fishing and shellfish gathering were of great importance to Aboriginal people in pre-European times, right along the NSW coast, and the evidence suggests an increasing use of the full diversity of coastal resources over time. The evidence also suggests distinct differences in the styles of accessing the coastal fishery resources on the north and south coasts (eg. in terms of seasonality and targeted species). Sullivan (1982) attributes these differences in the first instance to significant geomorphic differences between the north and south coasts. The north coast is dominated by long sandy beaches, and large river estuaries, lakes and bays. The south coast is much more a rocky coastline with numerous headlands and rock platforms, smaller estuarine waterways, and shorter beaches that have a geomorphic history of shoreline retreat. This coastal structure affects the frequency with which specific shellfish and finfish species are present in midden sites, but does not necessarily affect the number or size of sites.

This section reviews and synthesises the ethnohistorical and archaeological evidence for Aboriginal use of and occupation of beach habitats. This evidence provides the cultural context for ongoing Indigenous, recreational and commercial use of beach fishing resources. The archaeological evidence also provides the background to contemporary Indigenous fishing activity on beaches. The analysis shows quite clearly that the modern commercial ocean hauling fishery operates within the same habitats and involves very similar resources to those that were targeted by Aboriginal people in the past.

3.2.1 Ethnographic evidence

3.2.1.1 Descriptions of fishing method and equipment

There are many nineteenth century ethnographic references to Aboriginal people fishing in north and south coast estuaries, along beaches and around headlands. Whilst these descriptions would have been affected by the cultural values of the European settlers at the time, they do provide a clear indication of the ways in which Aboriginal people accessed the resources of the coastline.

Examples of the observations of nineteenth century settlers are provided below:

Ainsworth (1922) - *“the seasons were known to them by the foliage and flowers. They could tell by the natural signs of flowers and fruit when the salmon and mullet were due on the beaches and in the rivers, and also when certain game was likely to be in evidence in particular localities.”*

Hodgkinson (1845) - *“fish formed a never failing article of food for (Aboriginal people).”*

Henderson (1851) describes Aboriginal people diving for oysters, slowly working their way upstream in estuarine creeks.

Beaglehole (1955) (quoting from Captain Cook) *“on the sand and mud banks are oysters, muscles (sic) cockles etc which I believe are the chief support of the inhabitants, who go into the shoald(sic) water with the canoes and pick them out of the sand and mud with their hands and sometimes roast them and eat them in the canoe, having a fire for that purpose as I suppose.”*

Hodgkinson (1845) claims *“the (Aboriginal people) at the Macleay and Nambucca Rivers spear in a few minutes sufficient fish for the whole tribe, on the shallow sand banks and mud flats on that part of the river which rises and falls with the tide.”*

Crown Lands Commissioner (Fry 1843:653) - *“the subsistence of the natives of this portion of the colony being determined in a great manner from fishing, the localities which they inhabit are consequently the immediate banks of the rivers Clarence and Richmond”. Of the coastal Aborigines, Fry says “their diet is composed almost entirely of fish and honey.”*

Ainsworth (1922) provides detailed descriptions of the fishing methods used by Aboriginal people near Ballina:

“They were exceedingly expert hunters and fishermen and in these pursuits brought to their aid many ingenious weapons and contrivances. In catching fish they used what they called a ‘tow-row’ - that is a finely meshed net attached to a stick of bamboo bent in the shape of a bow about eight feet across between the two ends. This gave a bag effect to the net and with a tow-row in each hand the blacks could surround the fish schools in narrow and shallow waters and catch them by the hundreds. The cordage of these nets which were very strong and beautifully woven, was made from the inside fibre of the stinging tree and from the bark of the kurrajong. They used a similar net in hunting.

The tribe usually camped in divisions at different places excepting during the oyster season, when they assembled unitedly at Chickiaba, on North Creek, where the large oyster banks on the foreshores to this day mark the old feeding ground.” (Ainsworth 1922:28-31)

In addition, Ainsworth describes groups of people moving to the coast in September to take advantage of the huge shoals of salmon in the surf at that time of year. These fish were caught by spearing.

Macfarlane *“As the swamps reached the waterless stage an abundance of eels presented a plethora of the needful for the sustenance of the aboriginal, and there as little trouble capturing the slimy wrigglers in the shallow water. Some of these attained a large size, but the average weight was considered the best for eating. It*

was strange how the swamps produced so numerous a quantity of the eel species, as in drought periods they were cleared of the fish, but breeding was renewed when refilled with water from a flood.”

Macfarlane notes that the eels were cooked on a grill made of green sticks, suspended about 60 to 90cm above the cooking fire.

Perry (1839) - May - referred to a group of Aboriginal people living in huts in a sort of temporary village at the head of a deep estuary (Clarence): *“which appears to give considerable command of fishing ground, such a position being essential to their subsistence...., The canoes of these (Aboriginal people) were formed with more care than those in the neighbourhood of Port Macquarie and other places that had been visited, and were moored in a line in front of their villages. The (Aboriginal people) appear to possess, to a certain extent, habits of industry; their fishing nets, baskets, water vessels and cooking utensils being constructed with peculiar care and neatness. These people were delighted with being presented with some fish hooks.”*

Scott, quoted in Brayshaw (1966) - *“the schools used to travel from west to east close inshore on the northern side of the harbour, at high water.... The fishermen, generally about half a dozen at once, would rush into the water up to their middles..., then when the school was within striking distance, the spears would all be landed at once.”*

Mackness (1941) noted that Aboriginal people in the Twofold Bay region built lightweight bark canoes with folder ends. When fishing the Aboriginal people were noted to *“occupy a kneeling position in their Mudjerre or canoes and may be seen like floating specks off the coast spearing salmon; they are expert fishers.”*

Mackness (1941) - *“fish are abundant and the Aborigines may be termed Ichthyophagist.... Their mode of taking fish is by net, spearing and line and hook, the latter ingeniously made from bone. Their canoe a sheet of bark from the straight part of a tree folded at the end.”* (far south coast)

Anderson (1890) also describes canoes and wooden implements used by Aboriginal people on the south coast. The canoes were made of bark strips and were found along beaches as well as estuaries.

These descriptions provide an insight into the equipment that was used by Aboriginal people and also alludes to the community nature of fishing activity. This theme is strongly supported by Aboriginal people today.

Equipment used for obtaining resources from beaches and headlands included:

- Spears. There are references to spear fishing from the shore, from canoes and within the shallow water. Spears had four or five prongs, and were sometimes tipped with barbs ‘of kangaroo teeth’. Spears were also used to catch fish in the surf.
- Fish traps. Traps were sometimes made of stone (such as the structures at Arrawarra, Point Plomer and on Broughton Island), but were frequently made of plant materials, such as matted fences across tidal channels (Enright 1935, Bundock 1898, Burns 1844, Rudder 1925). These authors suggest that very large quantities of fish could be easily caught in these structures, especially during major fish runs (eg. mullet).
- Nets. There is some suggestion that nets on the north coast were made by women. A variety of nets were used in estuaries, including the “tow-row” described by Ainsworth. Nets could also be used in much the same way as fence type fish traps in the shallow (or narrow) upper reaches of estuaries. It is not clear whether nets were used to catch fish off beaches and headlands.
- Hook and line. Hooks and lines were in use by Aboriginal people at Sydney Harbour when Europeans first arrived there. There is some archaeological debate as to whether line fishing was a post European adaptation in some parts of the north coast, but shellfish hooks and slightly conical, ground edge items recorded as fish hook files, are widespread in midden sites on the central and mid north coasts.
- Canoe. Aboriginal people were clearly skilled at the navigation of lightweight craft in sometimes dangerous currents. There are references from the north and central coasts of people cooking fish and shellfish in their canoes. Locations such as Broughton Island, that could only be accessed by water for the last 6000 years, conserve abundant midden evidence (finfish and shellfish).
- Look out trees. There are several references to people climbing trees (using footholds and ropes made from bark and vines) to act as a lookout for schools of fish. One of these trees existed in the Worimi Local Aboriginal Land Council area on the shore of Port Stephens until very recently.
- Hand trapping or collection. This was the principal method for gathering shellfish, although baskets or other containers may also have been used to facilitate transport. In the case of deeper water shellfish (ie. not pipi or rock platform species), there are references to people diving (examples are oyster and more recently abalone on the south coast).
- Poisoning - there are references to the use of a “smart weed” to stun fish in waterholes or estuarine backwaters.

Several of these Aboriginal fishing strategies will not be archaeologically visible.

3.2.1.2 Species targeted and seasonal preferences

The species identified in various ethnographic references as being targeted by Aboriginal people are summarised in **Table 3.1**.

Table 3.1 - Summary of Ethnographic References to Species (North Coast)

Habitat	Species
Estuary	<ul style="list-style-type: none"> • Fish including black bream, garfish, whiting, flathead, tailor and trevally • Prawns • Oysters, whelks. Oyster diving and collection involved the whole tribe (see also McBryde (1982) re the Wombah middens) • Birds including swan, wild geese, wild duck, redbill and pelican
Tidal creeks and swamps	<ul style="list-style-type: none"> • Birds - quail and brolga • Eels • Crabs and crayfish, lobster • Mussels, cockles (Anadara), oyster • Tortoise • Food plants including rush (typha), cunjevoi, orchid, blue water lily, blechnum fern • “cobra”
Beach and coast	<ul style="list-style-type: none"> • Fish - sea mullet, groper, kingfish, leatherjacket, bullseye, salmon, snapper, stingray • Crabs and crayfish • Shellfish - pipi, rock platform species, anadara and mussel (brought from the estuary) • Pandanus, pigface • Terrestrial species such as macropods • Mutton birds • Whales (possible strandings)

There is a widespread view amongst the ethnographic reports, in part substantiated by excavation of midden sites, that people were generally on the coast through late spring, summer and autumn, but lived in the hinterland through the winter. However, some fish that are known to have been targeted by Aboriginal fishers were also far more common (in schools) in the winter months, and it is possible that early observers did not note short visits to the coast at these times to obtain particular resources.

For example, Ainsworth (1922) notes that in September there were the salmon (*Arripis trutta*) runs. Sea mullet were also important. Mullet can be obtained almost continuously throughout the year, except possibly for early summer. From about late April to early September, sea mullet migrate in enormous shoals northwards along the beaches and would have been easily obtained by netting and spearing.

By way of contrast, Sullivan (1982) refers to observations by Robinson (1844) of the apparently healthy appearance of Aboriginal people both on the uplands (of the Monaro) and right along the south coast between Goalan Head and Gippsland Lakes in mid winter, during June and July. These descriptions do not suggest a strongly seasonal pattern of coast and hinterland occupation. Sullivan suggests that wintering on the south coast may have been more common than on the north coast.

Sullivan 1978 notes the size of the population in the north coast valleys at contact, and the rapid demise of traditional life and customs (within 30 years of European settlement). Large groups of people met and camped at one spot for quite lengthy periods; eg. 200-300 at Ballina in 1853 for the “oyster season”, 300 at Woodburn, and 600 at Tintenbar. There are also several references to village like settlements (eg at the mouth of the Clarence estuary), suggesting relatively permanent settlement, at least on a seasonal basis.

Villages are also described from the south coast around 1840 (eg near Pambula, Brierly 1843), but there is a strong suggestion that even by this time, Aboriginal occupation patterns on the south

coast had been severely impacted by European settlement (eg whaling) and that the villages were not representative of pre European times.

Figure 3.1 reproduces part of a picture made by an Aboriginal man known as Mickey of Ulladulla, in about 1870. The original of this picture is held by the Grafton Historical Society and is on display in their museum. Although the picture post dates the first interactions of European and Aboriginal cultures on the south coast by many years, it does illustrate some important aspects of Indigenous fishing at that time. For instance:

- Two boats (sailing) are shown, each with a crew of five people, but only one group is actually fishing;
- The fishers are using hooks, lines and sinkers. No nets or spears are visible.
- One fisher holds a club.
- Five or six species of fish, in adult and juvenile sizes are shown, with snapper, leatherjacket and a species of shark readily identifiable.
- Many water birds are also shown, some of them fishing. Perhaps Aboriginal people used these birds to highlight the location of schools of fish?
- More people are shown sitting in shelters along the beach, each with a small fire. This may reflect the larger group associated with / dependent on the fishing activity.
- A kangaroo is also shown on the beach, together with coastal vegetation. This suggests that people were not entirely dependent on fish, even though fish was clearly considered abundant at the time.

3.2.2 Types and distribution of archaeological sites

Sullivan (1982) provides an overview of the archaeology of shell midden sites along the NSW coast. Although a number of middens have been further investigated since that time, most of Sullivan's conclusions remain unchallenged. Key features of the archaeological evidence from middens are noted below. These features provide abundant evidence of the importance of the fishery resource to Aboriginal people, and also point to changing technological and social organisation over time to enhance the return from the fishery. The structure of the NSW coastline, amongst other reasons, underpins some variations from north to south along the coast.

Colley (1987) highlights the difficulties of interpreting Aboriginal economic activity from the remains that are preserved in midden sites, particularly in relation to catch composition and seasonality. Factors include differential preservation of various materials (both plant and fish/shellfish), and the broad seasonal spectrum of some species.

Key features of NSW coastal midden sites include:

- In excess of 1500 midden sites have been recorded along the coast, primarily as open sites. In the Sydney region, a relatively high proportion of middens are situated in rock shelters, reflecting the relative abundance of cavernous overhangs close to the shoreline.
- The largest estuarine middens in NSW are located in the Macleay Valley (Clybucca and Stuarts Point). These mounded midden sites are estimated to contain 150000 to 200000 cubic metres of material. Similarly large middens are also known from the Richmond and Clarence valleys.

McBryde (1982) describes the results of excavations in large middens along the estuaries of the Richmond, Clarence and Macleay rivers. The shell middens of the Richmond estuary near Ballina include mounds up to 400 metres in length and standing 4 metres high, whilst on the Macleay, middens stretch almost continuously near Clybucca for several miles. On the Clarence, middens stretch almost continuously from near Wombah (13 km inland) to the coast. These deposits are located about 100 metres from the present bank of the main channel. In some cases they are situated on two terraces.

Oyster was the dominant shellfish throughout the deposit at Wombah (97% in some levels). Maximum carbon dates range from around 3500BP at the base of the deposit, up to 1500BP in level 2A of the middens. Despite the large volume of oyster shell in these sites, McBryde (1982) estimates that the oyster component in the big middens on the north coast is considered to have provided only 0.1% of the dietary requirements of expected groups visiting the site over the dated period of occupation. McBryde concludes:

- The diet was likely to have been a mixed one and the archaeological evidence overemphasises the shellfish component;
 - The period of occupation in any one year was likely to be short, and as hunting and fishing were still practised, the nineteenth century observers could well have missed the significance of shellfish gathering;
 - The evidence indicating that occupation was brief and periodic strongly suggests seasonal occupation, ie a segment of an economy exploiting different resources at different times of the year; and
 - The shellfish gathering, fishing and hunting economy documented for the site could be an important element in the total annual diet, a refreshing change in activities and food components. Shellfish could be important in this change, even though not providing a high return in terms of energy.
- Mounded middens are also found on the south coast, for instance at Pambula (these are relatively well preserved), at Wagonga Inlet, Wallaga Lake and Sussex Inlet. Smaller middens are widespread from the mouths of estuaries to the upper reaches.
 - Estuarine shellfish species comprise approximately 50% of the shell in middens along the coast. On the south coast, rock platform species are more common, reflecting the higher incidence of headlands. Beach pipi middens are common on the north coast, but many of these have been destroyed.
 - The mounding of midden sites may have been for cultural reasons rather than for any environmental reason. Sullivan (1982) refers to midden mounds as markers of good places to return to in the landscape, plus a concept that keeping the waste shell together would encourage more shellfish at that location.
 - Middens on the south coast tend to be sheltered by headlands and also tend to face to the north and east. In the Clarence Region of the north coast, sheltered middens tend to be located on the western side of dunes. (Note the relatively low frequency of headlands on the north coast, when compared with the south coast). The aspect of sites also reflects winter wind directions and possible seasonality of occupation.
 - Midden sites are often located close to supplies of fresh water, such as tributary creeks, springs, fresh ponds in coastal deflation basins and wetlands. Sullivan suggests that 80 to 90% of all midden sites are within 200 metres of a water supply, although occasional very large middens, containing entirely shell, are more than 500 metres from fresh water.

- Coastal sites provide evidence that they were clearly used in summer, but the evidence for winter use is less definitive. Species that are present in midden sites could have been available all year round.
- There is a tendency towards increasing variety of fish species and sizes in the upper layers of sites. Several authors suggest that this is due to the introduction of new fishing technologies (particularly line fishing) over time. Dates for fish hooks are all less than 1000 years. On the south coast, there is a clear change towards hairy mussel and edible mussel in the last 1000 years.
- Fish species that are reported from midden sites include snapper, bream (black and silver), leatherjacket, redfish, wrasse, mullet, flathead, and mulloway.
- Many midden sites have been destroyed by European land uses, with substantial destruction in the early years of colonisation when middens were exploited as a source of lime. Pipi middens along the coast may also be relatively underrepresented in the archaeological record, because many have been destroyed by mining and by coastal erosion and dune transgression processes.
- Human burials have been reported from midden sites right along the coast. Sullivan suggests that many of these burials, which include males and females (adults) and children, are relatively recent (last 200 years). Wherever they occur, and whatever their age, the presence of a burial in a midden deposit is highly significant to the Aboriginal community.

Figures 3.2 and 3.3 show the distribution of known Aboriginal sites along parts of the coastline of the NSW central – lower north coast (within Region 4 of the Ocean Hauling Strategy). These locations are shown to illustrate the characteristics of the archaeological record in this region and potential for interaction between beach hauling fishers and the physical evidence of past Aboriginal occupation. It should be noted that the two sections of coastline that are illustrated are not necessarily indicative of other sections of the coastline because local and regional depositional and erosional history (by waves and wind) greatly impact on the archaeological aspects of cultural heritage sensitivity at any given location. Nevertheless, the occupation evidence illustrates a number of points:

- In this area, sites occur landward of the frontal dune system and are frequently exposed along the deflation basin and windward face of transgressive dunes. The frontal dune and incipient frontal dune are relatively recent and may have low cultural heritage sensitivity. Note, however, that on both the north and south coast where coastal erosion has exposed sections of old stable frontal dunes, midden sites may be exposed on the seaward face of the dune (e.g. Arrawarra).
- Site types include shell middens of various species, with or without stone artefacts, and burials. Some locations may also be culturally significant because of past (or ongoing) ceremonial associations.
- The fish and shellfish species included in midden sites vary with proximity to rocky headlands and estuary mouths, and also vary over time. Middens along Newcastle Bight are dominated by pipi shell (and are remote from rocky headland environments). In contrast, the Birubi Point middens and those at Dark Point and Big Gibber include large amounts of robust rock platform shellfish material. Many coastal middens also include bird bone, seal and macropod bone reflecting a diverse diet and the patterning of coastal habitats. Sites that are exposed in lower north coast dune fields are threatened by ongoing transgressive dune processes (both burial by sand and abrasion during periods of exposure). These sites are also heavily impacted where uncontrolled 4WD access is available. As noted above, many sites have been destroyed by past land uses, including widespread mineral sand mining of frontal dunes.

3.2.3 Implications of other types of archaeological evidence and Aboriginal places

Gungil Jindabah Centre (1996), (in NSW NRAC 1996) describes the cultural value of the coastal and estuarine landscape to Aboriginal people on the north coast of NSW, with particular reference to the importance of “country”. They note that the coastal component of the region was, and still is, a central component in the culture of many Indigenous communities. The coastal area has the highest population density in the region and the seacoast provides a rich source of fisheries resources. Coastal land, estuarine and marine resources were and still are of major economic, spiritual and cultural importance.

“Aboriginal people have continued their associations with their sites and still adhere to the spiritual laws associated with them. This is despite the historical conflict and inbuilt preconceptions adhered to by non aboriginals since the British invasion.”

One example of a significant site that is well known is the Goanna Headland site at Evans Head. This area contains sacred places as well as archaeological sites that are considered significant. This site physically consists of the Evans Headland, Pelican Island, the land associated with the top end of Bundjalung National Park, and formations of the headland including fresh water sites, the vegetation, the animals and the ocean. The site follows the Evans River upstream to Woodburn and then follows the Richmond River up as far as Coraki. The Gungil Jindabah Centre notes that there are various spots along the Evans and Richmond Rivers where parts of the story are indicated by natural formations. The actual headland cannot be separated from the surrounding areas. To say that the headland alone is significant, is to separate it from all other physical features of the site and diminishes its true extent, nature and cultural integrity.

The Gungil Jindabah Centre (1996) also refers to totemic spiritual associations, observing that these relate to every plant or animal within the natural environment. Every family has a totem which connects them to their existence. These totems bind people together in a spiritual essence to their ancestors and their clan groups. Totems may also relate to the wind, water, or other climatic condition. These places are sacred and should not be interfered with. However, Aboriginal people would not generally discuss these spiritual concerns in the wider community.

3.3 INTERACTIONS BETWEEN OCEAN HAULING FISHERY AND ABORIGINAL HERITAGE SITES

The OHFMS provides a framework for commercial use of ocean fish species.

There are many Aboriginal sites along the ocean beaches and dunes that provide abundant evidence of the value of coastal resources to Aboriginal people, and in fact these sites underestimate the values of the coastal environment because no plant materials are preserved, and only a portion of the more robust animal parts remain.

Ocean hauling fishing, from beaches involves groups of fishers using nets. Nets may also be used from small boats offshore.

Aboriginal sites along the sandy coastline are potentially at some risk of impacts by commercial beach hauling fishers, principally because of access to these areas by four-wheel drive vehicles. It should be noted, however, that commercial beach hauling fishers (i.e. those whose activities are regulated by the beach hauling fishing strategy) comprise only a small proportion of the four wheel drive users of those ocean beaches that were traditional fishing and shellfishing locations for Aboriginal people. Beach midden sites in many areas are also threatened by natural processes such

as storm wave erosion of frontal dunes and the mobility of transgressive dune fields (e.g. see Hughes and Sullivan 1974, Dean-Jones 1990, Umwelt (Australia) Pty Limited 2000). Significant destruction of coastal dune sites also occurred during several decades of beach and dune mining for heavy mineral sands.

Commercial fishers access the traditional hauling grounds and shared beaches via access routes that have been agreed during consultation with local Councils and NPWS. The access routes are generally open to the general public. There are a few locations in each region where access is via a locked gate.

It is assumed that in agreeing to access along various tracks to beaches, that NPWS has considered the risk that ongoing vehicle access could impact on Aboriginal sites.

The activities and behaviour of licensed commercial fishers on NSW beaches is regulated by a code of conduct that is part of the licence. A copy of the Ocean Hauling Code of Conduct is included in **Appendix 3**. The code includes several clauses that, although not stated specifically to protect Aboriginal cultural heritage, would generally do so. These include:

- 1.1 Endorsed fishers will comply with local Council and NPWS bylaws.
- 2.1 Endorsed fishers will only use local Council or NPWS approved access points. Endorsed fishers will not make their own access tracks and will comply with any periodic closures of access points by these authorities.
- 3.7 Endorsed fishers will not drive their vehicles on frontal sand dunes and will minimise, as far as possible, their impact on the landscape.
- 4.1 Endorsed fishers will leave the beach clear at all times, removing any litter as they leave the beach.
- 4.4 Endorsed fishers will not bury fish in the dune system.
- 5.3 Endorsed fishers will co-operate with dune care and environment groups.

In addition, the closure of some beaches in all regions to commercial fishers (as agreed and recommended to the Minister for Fisheries by Regional Liaison Committees) further reduces the risk of impacts on cultural heritage sites at those locations. This is particularly the case for non-metropolitan regions.

Overall the nature of ocean hauling fishing means that although numerous Aboriginal sites are known along NSW beaches and dunes, there is a low risk that sites will be impacted by beach hauling fishing activity.

There is potential for fishery related activities to impact on Aboriginal sites at restricted locations, for instance at boat ramps, and localities that are used for storage and maintenance of equipment. The extent of the risk associated with these activities will vary from one beach to another, and definition of the risk for an individual beach will depend heavily on the availability of local knowledge (e.g. provided by discussions with local Aboriginal people and local NPWS officers).

Where potential impacts on Aboriginal sites are known to exist, it is important that they are addressed by liaison and management actions at the local level. This will ensure compliance with the requirements of the NPW Act, and will also enhance co-operation and understanding of cultural concerns. An example is the presence of Aboriginal cultural heritage material at the boat ramp at Arrawarra. This ramp is also adjacent to a stone structure considered to be an Aboriginal fish trap.

In general, the physical evidence of past Aboriginal occupation along beaches is most severely threatened by land uses and activities other than ocean hauling fishing. Large midden sites in the Hunter estuary and north coast estuaries were exploited for lime in the nineteenth century, and sometimes also for road base. Many sites have also been destroyed by agricultural land uses, urban and tourist development and some have been destroyed by bank erosion (that may have natural or anthropogenic causes). As noted above, many coastal sites were destroyed by mineral sand mining in the 1960s and 1970s, by roads, car parks and ongoing poorly controlled 4WD access.

The overall risk that activities authorised by the OHFMS will detrimentally impact on Aboriginal cultural heritage evidence along NSW beach and dune systems is considered to be small.

3.4 PROTOCOLS TO REDUCE THE RISK OF HARM TO SITES

The discussion presented in **Section 3.3** suggests that overall, the risk that activities that are authorised by the OHFMS will impact on Aboriginal sites (ie. physical evidence of past occupation), is low. Notwithstanding this, several management actions are proposed to ensure that risks to archaeologically and culturally sensitive areas are minimised. These include:

- Consultation with local Aboriginal community representatives in relation to any proposed commercial fishery facility that would be located on an ocean shoreline. This would include maintenance of existing ramps, new launching ramps and regional boat storage or maintenance sites. In general, such facilities will require separate environmental assessment and development consent including assessment of potential impacts on Aboriginal cultural heritage;
- Preparation of cultural awareness information for holders of ocean hauling authorisations. In particular, these operators should be aware of the nature of pipi and other midden sites along ocean beaches, and that such sites are protected by the NPW Act; and
- Ongoing consultation with local Aboriginal communities about developments in the commercial sector. This will occur, for instance, through Aboriginal representation on regional management advisory committees (MACs).

4.0 INDIGENOUS ISSUES

4.1 THE ROLE OF FISHING IN COASTAL ABORIGINAL COMMUNITIES

This section describes the role of beach and other coastal fishing and collection in Aboriginal communities today. The discussion demonstrates the continuity of fishing as an important Aboriginal cultural activity, and highlights the species and habitats that are targeted by Aboriginal people. The discussion also explores, at a general level, the ways in which existing and proposed strategies to manage the ocean hauling fishery interact with and impact on the interests of Aboriginal communities. As noted in **Section 4.5**, this interaction is being explored more fully in the development of an Indigenous Fishery Strategy.

4.1.1 Historical and contemporary fishing by coastal Aboriginal communities

Section 3 described the evidence for pre European Aboriginal use of the coastal fishery, and the ethnographic evidence from the first years of competition for the resources of the NSW coastline with commercial and recreational fishers.

The State Aboriginal Land Council has noted the strong historical dependency of coastal Aboriginal communities on fishing. They provide an Aboriginal perspective of the locations of missions that were established to accommodate Aboriginal people in the late nineteenth century, observing that many missions were located on estuaries or coastal headlands. Aboriginal people who were relocated to these missions would have been expected to provide a substantial proportion of their food supply by fishing and shellfish gathering.

A few publications provide evidence of the continuity of fishing as a lifestyle for Aboriginal people, and illustrate with specific case studies, the general principle described by the State Aboriginal Land Council. An example is the description of the Wreck Bay community on the NSW south coast (Egloff 1981). Schnierer and Robinson (1996) review environmental uses and issues for Aboriginal people on the NSW north coast.

4.1.1.1 The Wreck Bay fishing community - a south coast example of historical Aboriginal estuarine fishing

Egloff (1981) refers to abundant archaeological evidence of Aboriginal fishing and shellfish gathering along the shorelines at Wreck Bay, with extensive middens containing shellfish, fish hooks (using shell) edge ground axes, bone points and flaked stone implements. Axe grinding grooves, open campsites, bora rings and burial sites are also reported from the peninsula. Egloff describes fishing by men using spears that had hard wood prongs tipped with bone points. These spears were used in the bay and in shallow waters over rock reefs. Women also fished using hook and line. Species represented in the midden sits include snapper and bream, as well as pipi and cockle.

The Aboriginal population in this part of the south coast was decimated after European settlement. Eventually the remaining Aboriginal people were settled at reserves at Roseby Park and Jervis Bay (Beecroft Peninsula), although a few people had continued to live in these areas throughout the nineteenth century. 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 (at Currumbene Creek) the following year.

When the Commonwealth took over administration of Jervis Bay in 1922, there were 25 Aboriginal people living in a fishing village at Wreck Bay and Aboriginal crews had fished this part of the coast throughout the latter part of the nineteenth century.

Egloff's (1981) description of fishing at Wreck Bay in the first half of the twentieth century highlights the following features:

- Net fishing from small boats for mullet, blackfish, jewfish, kingfish, whiting and bream. 200 to 300 cases of fish could be caught at a single shot (see also **Figure 3.1** that shows line fishing for snapper from small boats);
- Snapper caught off the reefs with hand lines;
- Spotters stationed at vantage points (including high trees on the beach);
- Fish were carted to the railway at Bomaderry for transport to markets;
- Each catch was divided into five parts - one part for each crew member and one for the boat and gear which needed constant repair;
- In the 1940s and 1950s there were seven to eight crews of Aboriginal fishermen operating at Wreck Bay, and a rotation system was used to provide equitable access. Each crew had rights for 24 hours in turn;

- Most fishing was done between Christmas and Easter, and at other times men worked at local timber mills or picking vegetables;
- Catches declined in the late 1950s and 60s, and so did prices fetched for fish; and
- During the depression, families camped on the southern beaches of the bays and collected pipis, mussels and oysters. People also gathered abalone at this time. It was sun-dried on wire racks and sold to traders from Sydney.

Egloff (1981) also notes that the Office of the Protector of Aborigines also provided fishing boats to reserves and camps along the far south coast:

“In the Bodalla district, Aborigines were considered by ME Mort to be destitute without a boat. These Aborigines had sold fish for a living until their boat was wrecked while going to the assistance of a sinking vessel. Another image shattered; most white Australians do not realise the extent to which coastal Aborigines quickly adopted European maritime technology and became net fishermen capable of making their own gear and surprisingly enough, also pursued large whales. Recently buried at Wreck Bay is one of the great whalers of Twofold Bay, Aden Thomas. Before him were Hadigadi and Adgerree, two coastal Aborigines famous for their whaling exploits.” (p 23)

4.1.1.2 Contemporary Aboriginal community participation in coastal fishing

The number of Aboriginal people fishing along the NSW coast today is not well documented. Few Aboriginal people now hold commercial licences that provide access to the ocean hauling sector of the industry (Hector Saunders pers comm, Karuah Local Aboriginal Land Council).

However, a project funded by the Natural Heritage Trust and undertaken by the Centre for Indigenous Environmental Research at the Southern Cross University is seeking to shed some light on Indigenous fishing in NSW (Schnierer pers.com.).

Under current licensing arrangements, most Aboriginal fishers are included in the recreational sector of the fishery.

As part of the recreational fishery, Aboriginal people are required to give priority to commercially licensed fishers in areas that are ‘recognised fishing grounds’. Aboriginal people who are not licensed fishers may assist a fisher who holds an ocean hauling endorsement to remove fish from a net, but must not participate in the shot or hauling of the net. All persons involved in the shot and hauling activities must be endorsed.

This means that Aboriginal community members who are present on the beach with an Aboriginal person who holds a relevant commercial licence may assist in removing fish from the net, but no other activities, unless they are also licensed.

NSW Fisheries is currently coordinating a national survey of recreational fishing activity. The project is a joint initiative of Commonwealth, State and Territory governments. A sample of 45000 Australian households was selected from Australian Bureau of Statistics subdivisions. These households were contacted by telephone and information collected about participation in fishing, household structure, demographic profile (including ethnicity), and fishing intentions in the coming year.

Fishing households were encouraged to participate in a diary program where monthly information was collected about fish catches, fishing effort and fishing expenditure. Although data processing

is continuing, NSW Fisheries has provided preliminary information for the first ten months of the survey.

Preliminary results are noted below (Gary Henry pers comm):

10300 households were selected in NSW.
 About 8300 households provided a full response to fishing participation questions.
 These households contained about 19600 people.
 1.4% of the sample were Indigenous people.

1836 fishing households in NSW agreed to participate in the diary survey.
 23 (1.3%) of these households were Indigenous.
 3590 fishing people in NSW took part in the survey.
 63 (1.7%) of these were Indigenous people.

Clearly, the sample of 63 Indigenous fishers is only small and also includes both inland and coastal fishers. Nevertheless, the sample provides a preliminary indication of some of the characteristics of Aboriginal fishing activity, which perhaps distinguish it from fishing by other groups.

The sample of 63 Aboriginal fishers has gone fishing on 266 separate occasions over the ten month period and the number and species diversity of their catch is shown in **Table 4.1**. Estuarine and marine species are shown in italics. The fishing effort by these fishers over the period of the survey is greater than the average across the state, hinting at the broader Aboriginal community consumption of the catches of Aboriginal fishers. The currently available data does not provide an indication of other types of fishing activity, or of other estuarine and coastal resources that are of importance to Aboriginal people.

A more detailed survey and analysis of Aboriginal fishing practices would be needed to draw firm conclusions about the nature of participation of Aboriginal fishers in the coastal fishery.

Table 4.1 - Results of Recreational fishing survey, Indigenous households

Species Common name	Kept	Released	Total
<i>Bream – unspecified</i>	32	66	98
Carp	37	1	38
Catfish – freshwater	1	2	3
Catfish – unspecified		6	6
Cod - Murray/ Murray perch	4	20	24
<i>Cod - red rock/ red scorpion/ coral perch</i>		2	2
Cod – unspecified		1	1
Fish – other		12	12
<i>Flathead – unspecified</i>	43	79	122

Table 4.1 - Results of Recreational fishing survey, Indigenous households (cont)

Species Common name	Kept	Released	Total
<i>Flounder/ sole/ flatfish – unspecified</i>		6	6
<i>Garfish – unspecified</i>	30		30
<i>Gurnard</i>	3		3
<i>Leatherjacket</i>	6		6
<i>Lobster – unspecified</i>	12	11	23
<i>Morwong – blue</i>	0		0
<i>Mullet – unspecified</i>	4	7	11
<i>Mulloway/ jewfish/ kingfish</i>	3		3
Non-Fish – other	1		1
Perch - golden/ yellowbelly/ callop	42		42
Perch – pearl	1		1
Perch - redfin/ English		1	1
Pike – unspecified		1	1
<i>Salmon - Australian east/ west/ kahawai</i>		1	1
<i>Shark – unspecified</i>	1		1
<i>Snapper - pink/ southern/ squire</i>	2	13	15
<i>Tailor/ chopper/ jumbo</i>	9	7	15
Trout – brown		1	1
Trout – rainbow	10		10
<i>Whiting -unspecified</i>	10	39	49
Yabbies	7		7
Yabbies/ nippers/ bass yabbies	40		40
Grand Total	298	276	574

Over the period of this survey, the most commonly caught ocean fish by Indigenous fishers were flathead, bream, whiting, garfish, lobster, snapper and tailor.

4.1.1.3 Fishing method on the north coast

Faulkner (2000) provides general information about Indigenous fishing in northern NSW today. He notes that target species include both freshwater and saltwater species, with fish, crayfish, freshwater mussels, marine/estuarine shellfish, aquatic woodworms and freshwater turtle being mentioned.

Fishing technology includes hand lines (82%), rods and reels (57%), nets and spears, together with specialised traditional environmental knowledge. Faulkner (2000) notes particularly the concentrated effort of Aboriginal fishing practice, where a group of fishers is fishing not only for themselves, but to provide food, medicines and other resources for others in their community. The scale of fishing effort by these Aboriginal fishers is greater than if they were occupied with recreational fishing activity as individuals, but the catch is generally not intended for sale. Notwithstanding this, the catch has significant value to the Aboriginal community, as a supply of food, to meet social obligations within the community, and to provide materials for barter. More detailed analysis of north coast fishing participation, practices and cultural values is provided in Faulkner (2001, in prep).

4.1.2 The economic and social value of fishing in coastal Aboriginal communities

Most Aboriginal people who fish in estuaries and collect shellfish from beaches are currently classified as recreational fishers. Many recreational fishers of all ethnic backgrounds fish for both lifestyle and dietary supplementation reasons. However, the way fishing is reported to be practised by the Aboriginal community reflects strong cultural, lifestyle and economic factors.

Aboriginal people persistently describe fishing activity as something that is done at the community scale, rather than the individual scale. Many members of the community join together to fish and collect shellfish and to share other information about the environment. Sharing and barter of fish catches is part of the way people within a community meet their social and cultural obligations to others. The fishing outing also provides opportunities for the passing of traditional ecological knowledge and cultural knowledge from one generation to the next.

The economic value of this type of fishing activity to individuals and to whole Aboriginal communities is difficult to quantify. There are a number of constraints that need to be taken into consideration when assessing the economic value of beach fishing in Aboriginal community economies, and therefore the impact that regulation of the fishery has had and will have on the economy of Aboriginal communities. These matters are noted below, on the basis of anecdotal information from the State Aboriginal Land Council and some Local Aboriginal Land Councils. Although it would be possible to document and verify these general statements, a detailed social and anthropological study would be necessary. Such a study is beyond the scope of the present EIS process. The time frame necessary to achieve the level of trust between the Aboriginal community and researchers, and for transfer of effective information about the economic value of various activities, is also outside the scope of this EIS process. Some of these matters are currently being addressed through the consultation for the preparation of an Indigenous Fishery Strategy for NSW (see **Section 4.5.3**).

Key points that have emerged from the consultation during the preparation of this EIS include:

- In general, many people who live in coastal Aboriginal communities are relatively disadvantaged in terms of education, and access to the broader job market. This affects the relative economic importance of non-market food sources to individuals and to the community.
- On the south coast, employment based around a series of seasonal jobs is described. These include work in sawmills, bean and potato picking and fishing (particularly during the summer). Fishing is described as a community subsistence activity, with most of the catch consumed within the community, and a portion traditionally traded for other commodities, or sold locally (not through the Commercial Cooperative). This type of fishing and trading is described as being of great importance to community welfare, although the overall cash exchange may be very small, and very poorly documented.
- On the north coast, small-scale marketing of fish or shellfish at the local level provides an important economic supplement to the incomes of individuals and is also considered to provide important social benefits to communities with a high level of unemployment amongst young people.
- Community based fishing and use of other estuary resources is described as having indirect economic value to Aboriginal communities; for instance, because fishing parties also collect traditional medicines from the estuary, because the fish resources provide a healthy component of the diet (reducing the risk of certain illnesses), and because the fishing activity may provide outlets for other social issues that have economic implications. None of these aspects are documented quantitatively.

- Aboriginal people state that they have a strong interest in the sustainable use and management of beach fishery resources, so that the full range of resources of value to the community is available for future generations.

4.2 CURRENT ACCESS OF ABORIGINAL COMMUNITIES TO COASTAL FISHERY RESOURCES

Commercial fishing has existed along the NSW coast since the mid nineteenth century, and by historical accounts dating to the late nineteenth century, it existed initially as a locally based activity because of the lack of effective refrigerated transport to bring catches to the Sydney or export markets. Commercial fishing operations moved to more remote parts of the coast early in the twentieth century. Thus, the interaction of traditional Aboriginal fishing activity on beaches with the commercial sector spans approximately 150 years in the Sydney area and 100 years elsewhere on the NSW coast. In many Aboriginal communities, at least some members held general commercial fishing licences, and participated in the commercial sector, as well as fishing to support family and friends (see **Section 4.1**).

From the late nineteenth century, a number of estuaries (or parts of estuaries) were closed to commercial fishing, generally to conserve or to allow the regeneration of fish stocks. Traditional Aboriginal fishers would have continued to have access to the aquatic resources of these waterways during periods of commercial closure. Many beaches are also closed to commercial fishers for at least part of the year. These closures have been initiated, in part, to reduce conflicts between commercial fishers and other groups on beaches.

Since the mid 1980s, a number of new regulations have been introduced by NSW Fisheries (see **Table 4.2**). The broad objective of these regulations was to enhance the efficiency of the commercial fishery, and introduce greater control over fishing effort and impact. Until this time, many nominal participants in the industry had held licences that were used only rarely in terms of the historical importance of the commercial fishing activity to the licence holder's income. However, with many "sleeper" licences issued, there was a potential for major impacts on the fishery resource, if for instance, all licence holders decided to increase their effort and use the full extent of the licence. The new provisions forced amalgamation of many smaller businesses and low-activity licences.

The number of Aboriginal people who are licensed as commercial fishers in the ocean hauling sector and the relative scale of their fishing effort, is not known.

The introduction of greater regulation in the ocean hauling fishery from the mid 1980s had several unintended consequences in relation to the access of Aboriginal communities to the coastal fishery. The impacts of the regulations continue to be of concern to Aboriginal fishers, and are discussed further in **Section 4.2.1**.

Table 4.2 summarises the changes to the regulations, and the ways in which these changes are seen by the Aboriginal community to have disadvantaged their access to the fishery. The information presented here about the views of the Aboriginal community is based on discussions with the NSW Aboriginal Land Council, NPWS Aboriginal sites officers/liaison officers along the NSW coast and a small number of individual Aboriginal fishers.

Table 4.2 - Increasing Regulation of Commercial Fisheries

Date	Regulation	Effects on Aboriginal fishers (advice from Aboriginal community representatives)
1980	Access to the abalone fishery limited	Commercial access to abalone is available only to those holding commercial licences. Two licences are held by the Cruise family at Eden, but no other Aboriginal fishers now participate legally in commercial abalone fishing. Aboriginal communities feel that the scale of their past involvement in abalone fishing was greater than the individual recreational fisher, and was not recognised in the allocation of abalone licences, in what is now a very lucrative industry. Aboriginal people feel that they were not consulted adequately about their interests in this industry at the time. Note that abalone is not part of the ocean hauling fishery.
1984	Freeze on the issue of new boat licences	This was the first time that access to the general fishery had been limited. Although existing boats were not affected, limits were introduced on new commercial boat licences, and additional boats had to be justified.
1986	Access limited to offshore prawn trawling	No specific information available.
1987	Freeze on the issue of new commercial fishing licences	The aim of this regulation was to ensure that new participants in the fishing industry replaced existing fishing effort rather than adding to it. Aboriginal communities note that they tend to fish in community groups, so that more than one generation would be represented in a fishing group. During fishing activities, not only fishing skills but other cultural information might be shared with younger members of the community, so that sale or transfer of the licence from one generation to another is not as straightforward as in some other parts of the general community. Coastal Aboriginal communities feel that they were disadvantaged by this change to the legislation
1993	Access to the lobster industry limited	No specific information available.
1994	Licensing policy introduced, catch validation required	The 1994 legislation was the first part of the changes that continued until 1997 when the restricted fishery concept was introduced. Although NSW Fisheries required only small commercial returns to be documented, some Aboriginal families who had held general commercial licences were not able to meet this requirement. In this period, requirements that all participating fishers hold a licence were introduced. Aboriginal fishers feel that the small scale, group fishing strategy of Indigenous people is disadvantaged by this requirement.
1997	Restricted fisheries introduced for major marine fisheries	This legislation ended the period that licensed fishers could automatically access multiple fisheries. Aboriginal people feel that NSW Fisheries did not consult adequately with them about the implications of this legislation. Entry to the restricted fishery required demonstration of a minimum level of catch history. Aboriginal people feel that basing licence renewals on returns lodged with NSW Fisheries was not consistent with the "circular seasonal" fishing practised by Aboriginal communities, and the family support/barter economy of Aboriginal communities. The restricted fishery licences also meant that separate licences now needed to be held to access the estuary general, beach hauling and prawn hauling components of the fishery (with separate endorsements for different parts of the beach hauling), which were all part of the seasonal round of small scale Indigenous fishers. Aboriginal fishers also report that the zoning of the coast for licensing purposes is not consistent with their seasonal activities, which would once have involved considerable movement along the coast (eg from Nowra to Lakes Entrance).

Table 4.2 - Increasing Regulation of Commercial Fisheries (cont)

Date	Regulation	Effects on Aboriginal fishers (advice from Aboriginal community representatives)
	Closure of certain beaches and estuaries to commercial activity during holiday periods	Many NSW beaches are closed to commercial fishing over weekends and during holiday periods when recreational demand is greatest, or to protect habitat/resources. Aboriginal people do not generally regard themselves as recreational fishers. These closures further restricted community scale fishing activities (eg pipi gathering).

4.3 IMPACT OF CHANGING REGULATIONS - SPECIES AND LOCATIONS

The impact of changing regulations for commercial beach hauling fishers adds to the impacts of regulations for pipis and beach worms and estuary general fishers. This discussion includes fishing that is licensed in the estuary general and ocean hauling fisheries. **Table 4.2** indicates that restrictions in both these commercial sectors have affected Aboriginal fishers who would traditionally have accessed the resources of all sectors during their annual activities.

4.3.1 Pipis and beach worms

Pipis are a bivalve mollusc that is common on sandy beaches, particularly along the central and north coasts of NSW. The past importance of pipis in the diet of Aboriginal people is attested to by the presence of large numbers of extensive middens comprising almost exclusively pipi shell, in the dune fields behind central and north coast beaches. These middens mostly appear to date to the last 3000 years (see **Section 3.2.2**). There is no doubt that pipi continues to be an important part of the diet of coastal Aboriginal communities today, and pipi gathering is an important social as well as dietary activity.

Pipis are also now a growing commercial resource, with pipis sold as bait and for consumption in soups and chowders. The pipi market grew rapidly from a low base to a peak of approximately 70000 tonnes (value \$125000) in 1996-97, but dropped dramatically following concerns about contamination by biotoxins from algae. NSW Fisheries predict that this sector of the commercial market will recover and grow. Commercial pipi gathering is almost exclusively by hand.

There are few, if any, Aboriginal people involved in the commercial harvesting of pipis (ie. holding estuary general licences with endorsements for pipis). Aboriginal people therefore currently harvest pipis as part of the recreational sector where strict bag limits now apply. Recreational licences are also now required to be held by each individual participating in pipi gathering, unless they are party to a registered Native Title claim.

On the north coast, changing regulations about access to pipi resources has led to some conflicts about small scale marketing of pipi (generally for bait) by Aboriginal communities, such as the Bundjalung community at Yamba. In this community, Aboriginal people report that they have had long standing arrangements with local fishing tackle and bait suppliers to provide pipis for bait during the peak tourist season. Aboriginal people note that the money earned from this activity supplements income from other part time jobs and social security payments, particularly for young Aboriginal people (verbal paper presented by the community at the NSW Coastal Conference, Yamba 2000).

4.3.2 Fish species

Table 4.3 shows the species that are commonly reported to be caught by Indigenous fishers, or have been reported as a significant component of bone from Aboriginal sites along the NSW coast. It also shows the most commonly caught commercial species in the estuary general and ocean

hauling fisheries, and the extent to which some of these species are currently exploited by the commercial fishery (based on NSW Fisheries, May 2001, Draft Ocean Hauling Fishery Strategy and Draft Estuary General Fishery Strategy).

Table 4.3 - Species valued by commercial and Indigenous fishers

Species	Commercial fishery	Indigenous fishing
Sea mullet	Important resource, fully fished (EGFMS) Fully fished (OHFMS)	Frequent ethnographic references right along the coast; reported in recreational survey of Indigenous fishers; reported from south coast Indigenous fishers in 1950s
Luderick	Moderately fished (EGFMS) Moderately fished - sustainable (OHFMS)	Widely fished, anecdotal information
Yellowfin bream	Fully fished (EGFMS) Fully fished (OHFMS)	Black bream (not yellow fin bream) reported ethnographically and in midden sites; reported from the Wreck Bay community in 1950s. Bream commonly caught accordingly to data in recreational fishing survey
School prawns	Fully fished	Widely fished, anecdotal information
Dusky flathead	Fully fished	Reported ethnographically and in midden sites; reported in recreational survey of Indigenous fishers
Blue swimmer crab	Unknown	Widely fished, anecdotal information
Sand whiting	Moderately fished (EGFMS) Moderately fished (OHFMS)	Reported ethnographically and in midden sites; reported in recreational survey of Indigenous fishers; reported from the Wreck Bay community in the 1950s
Longfinned eels	Underfished to fully fished depending on catchment (EGFMS)	Ethnographic reports of eel trapping in upper estuaries and wetlands
Pipi	Unknown (EGFMS)	Most common species in ocean beach middens; pipi gathering a strong contemporary Indigenous fishing activity, both recreational and small scale commercial
Fantail mullet	Under fished	No information available
Silver trevally	Fully fished to overfished (EGFMS) Fully to over fished (OHFMS)	Reported ethnographically and in midden sites
Mulloway	Unknown (EGFMS)	Reported from archaeological sites; reported from the Wreck Bay community in 1950s
Tarwhine	Unknown (EGFMS)	Present in some midden sites (north coast)
Leatherjacket	Moderately to fully fished	Reported from archaeological sites
River garfish	Unknown (EGFMS)	Reported in recreational survey of Indigenous fishers
Sand mullet	Unknown (EGFMS)	

Table 4.3 - Species valued by commercial and Indigenous fishers (cont)

Species	Commercial fishery	Indigenous fishing
Silver biddy	Unknown (EGFMS)	
Mud crab	Unknown (EGFMS)	
Eastern king prawn	Fully fished (EGFMS)	
Tailor	Unknown (EGFMS)	Reported ethnographically; reported in recreational survey of Indigenous fishers. Moderately common in midden sites.
Snapper	Fully fished to overfished (EGFMS)	Reported from archaeological sites; reported in recreational survey of Indigenous fishers
Yellowtail	Fully fished (OHFMS) Fully fished (EGFMS)	
Whiting	Unknown (EGFMS)	Frequently caught by Aboriginal fishers
Rock oyster		Abundant in estuarine middens (especially north coast)
Mud/sand oyster		Common in estuarine middens along entire coast
Hairy and edible mussel		Abundant in upper levels of south coast middens (last 1000 years)
Blood cockles (Anadara cockles)		Contemporary Indigenous fishing, very common in estuarine middens right along the coast
Rock platform shellfish		Common in coastal middens, particularly on the south coast, where headlands more frequent
Mud whelk		Common in archaeological sites
Blue Mackeral	Moderately fished (OHFMS)	
Sandy Sprat	Unknown (OHFMS)	
Sweep	Unknown (OHFMS)	
Anchovy	Unknown (OHFMS)	
Australian salmon	Unknown, fluctuating (OHFMS)	Multiple ethnographic references to this fish being targeted in schools, on both north and south coast.
Sea garfish	Probably over fished (OHFMS)	Commonly reported in Indigenous component of recreational fishing survey.
Pilchards	Unknown (OHFMS)	
Dart	Unknown (OHFMS)	
Bonito	Unknown	
Leatherjacket	Unknown (EGFMS)	
Greasy back prawn	Unknown (EGFMS)	
Squid	Unknown (EGFMS)	
Beach worms	Unknown	Collected by Indigenous fishers for their own use and for sale in small quantities

This very preliminary level of analysis indicates, as might be expected, that there has been and continues to be a strong overlap between the fish species targeted by commercial fishers and those that have been targeted by Aboriginal people in past and contemporary fishing activities. There is much less overlap between commercial and Indigenous shellfish harvesting, although a number of the shellfish species preferred by Aboriginal people are also now collected by other ethnic groups in NSW.

Of particular note is the reported extent to which some species, of long standing importance to Indigenous fishers, are considered to be fully fished to overfished in the commercial sector, although NSW Fisheries also note that the status of some species requires further analysis.

The OHFMS lists species that are protected under the Fisheries Management (General) Regulations 1995, either from the commercial sector, or all sectors. Marine fish protected from all sectors includes:

- Ballina angelfish;
- Estuary cod;
- Great Queensland groper;
- Grey nurse shark;
- Herbst nurse shark;
- Black rock cod; and
- Weedy sea dragon.

Marine fish protected from commercial fishing include:

- Estuary perch; and
- Blue groper.

There are also restrictions on the amounts of tailor and Australian salmon taken commercially in some areas.

From the limited information that is currently available about Indigenous fishing species preferences, the restriction of access to species listed for general protection would not constitute a significant impact on the economic aspects of Indigenous fishing.

4.4 NATIVE TITLE AND LAND CLAIMS

Local Aboriginal Land Councils in NSW may make claims with respect to Crown Land under the NSW Aboriginal Land Rights Act. In general, land claims to date have included parcels of land along the banks of estuaries, and on beaches. For instance, the government announced in March 2001 the granting of a Land Claim by the Worimi Local Aboriginal Land Council over substantial sections of Stockton Beach. Although part of the claim is proposed to be leased back to NPWS to become part of a new national park in the vegetated dunes of Stockton Bight, the granting of the Land Claim will provide the Land Council with opportunities to exercise a high level of control over the use and management of the beach and dunes, including the management of a large number of midden sites.

The Commonwealth Native Title legislation was introduced in 1993. Up until the end of June 2001, a total of 335 Native Title claims had been made by Aboriginal people in NSW. Very few of these have yet been determined, and only 52 have reached the acceptance or registration stage. Of the 335 claims, 147 have subsequently been withdrawn.

Where it is demonstrated to exist, Native Title provides the Aboriginal community with opportunities to negotiate in relation to allocations of the resources of the land (or water) (future acts) in question, and also to negotiate compensation for loss of access to traditional sites and practices.

Of the Native Title claims that have been lodged to date in NSW (and the Jervis Bay territory), 50 relate to land around estuaries and along the coast. Two claims on the south coast (by the Walbunja people and the Djiringanj people) extend both along the coastline and out to the 200 nautical mile limit. Other examples of claims that cover estuarine and coastal waters include those by the Bherri Werri people (Jervis Bay), Eloura people (south of Wollongong), Gundungurra people (Moruya) and Banjalang people (north of Yamba and at Byron Bay).

In some cases, Native Title claims have been made and subsequently withdrawn, although this is not necessarily an indication that local Aboriginal people consider that the claim has a weak case. In all cases, the effort required to demonstrate the necessary connections to the land, and to achieve successful outcomes from Court cases, is high. It can be expected that resolution of Native Title issues will take many years.

The issue of Native Title is noted in the draft Ocean Hauling Fishery Management Strategy as a reason that Aboriginal people are stakeholders in the development and implementation of the strategy. The draft strategy also alludes to the potential for Native Title to lead to the exclusion of other groups of estuary fishers from some waterways. As no Native Title claim that would provide for exclusive use or partial curtailment of other users has yet been granted in coastal NSW, the draft strategy does not specifically address the process for dealing with future interactions between Indigenous fishers and commercial fishers in this context.

The draft Strategy does discuss contingency plans “in the case of emergencies or unpredictable events” and also has a trigger point for review that relates to significant shifts in the balance between catches taken by various sectors (commercial, Indigenous and recreational) in any estuary.

These broad strategies will allow the Ocean Hauling Management Strategy to be reviewed and amended over time, as the issues related to tenure of waterways and the seabed are further resolved.

4.5 MANAGEMENT OF INDIGENOUS FISHING AND OCEAN HAULING FISHING INTERACTIONS

4.5.1 Outstanding issues of concern to coastal Aboriginal communities

The level of Aboriginal participation in the commercial fishery sector appears to have declined substantially over the last twenty years. There are now perhaps less than fifteen active fishing licences (estuary general and beach hauling) held by Aboriginal families along the coast. However, the lack of commercial participation is not an indication of declining Indigenous participation in fishing generally. There are four main categories of outstanding issues of concern to the Aboriginal community in relation to their participation in the management of fisheries in NSW (NSW Fisheries 2000) and each of these is also relevant to the impact of ocean hauling commercial fishery strategy on Aboriginal communities:

- lack of recognition and accommodation of traditional Indigenous fishing practices;
- declining participation of Aboriginal people in commercial, recreational and aquaculture fisheries;
- insufficient meaningful presence and participation of Aboriginal people in the process for managing and conserving fisheries resources; and

- need for better communication and consultation with Aboriginal people.

4.5.2 Actions to address Aboriginal concerns in the draft OHFMS

The draft ocean hauling fishery management strategy identifies Indigenous people as stakeholders in the ocean hauling fishery, noting that these interests arise from:

- direct participation in the fishery as commercial fishers;
- traditional fishing practices, whereby people catch fish on behalf of themselves and their community; and
- lodgement of Native Title claims over estuarine areas that are used for commercial fishing. (see **Section 4.4**).

NSW Fisheries legislation does not currently recognise Indigenous fishers as a separate sector of the fisher population, and this is the main reason why none of the legislative reviews to date have given extensive consideration to Aboriginal community concerns.

The draft OHFMS does not specifically address the Aboriginal community's view that the evolution of the fisheries legislation in NSW has gradually but consistently undervalued the interests of Aboriginal people in the ocean hauling fishery. The draft strategy does, however, foreshadow future amendments to the strategy to better accommodate Aboriginal community interests.

For instance:

Objective 4.1

To monitor and provide an appropriate allocation of the fisheries resource between fishing sector groups, acknowledging the need for seafood consumers to access fresh quality fish.

Action: (a) assess, as far as is practicable, the size of the non commercial and illegal catch and the relative impact of such harvesting on the resource, taking into account the results of the National Recreational and Indigenous Fishing Survey.

Object 4.5

To promote harmony between the commercial fishery and other resource users, including recreational fishers, Indigenous fishers and local communities, through fair and equitable sharing of the fisheries resource.

The draft Strategy recommends four actions in relation to this objective:

- continue to use fishing closures to control the area and time fished. These closures are determined in consultation with Regional Liaison Committees that include NPWS and Indigenous interests;
- review the established code of conduct on an annual basis, so that appropriate standards for interaction with other fishers and the environment are maintained;
- develop a code of conduct for the purse seine sector (not covered by existing code). This could cover interactions with other fisheries, and management of incidental catches of marine mammals or birds; and

- define recognised fishing grounds in consultation with Regional Liaison Committees to establish clear rules and priorities for access.

Part C6 of the Ocean Hauling Fishery Management Strategy relates to performance monitoring and review. The performance indicator listed for appropriate sharing of the ocean hauling fishery resource is the catch level (including estimates) of the commercial, recreational and Indigenous fishing sectors. A trigger point for review is noted as a shift of relative catch levels of 25% between sectors over the term of the strategy.

It is important to note that such a shift in relative catch is unlikely to occur without significant changes to policies affecting access to the resource.

4.5.3 Towards a NSW Indigenous Fishery Strategy

NSW Fisheries has recognised that coastal Aboriginal communities have long standing and legitimate interests in the fishery resources of the coastline. The NSW Government now also acknowledges that Indigenous community interests in the coastal fishery are contemporary and do not only relate to past history. The traditional access of Aboriginal communities to natural resources has been restricted by existing fisheries management policies and legislation.

A recent working paper prepared by NSW Fisheries (2000) indicates that consultation is progressing about how best to recognise and accommodate the rights and interests of Aboriginal people in the estuary fishery and other commercial fisheries. The working paper is part of the process for the development of an Indigenous Fishery Strategy for NSW.

The working paper does not provide a specific definition of Indigenous fishing activities, but several important characteristics can be deduced.

A number of actions have already been implemented to recognise the interests of Indigenous stakeholders. These include:

- NSW Fisheries accessed funds from the Federal Government as a result of the Coastal Zone Inquiry to employ an officer to begin the development of an Aboriginal fisheries strategy (1996/7);
- A series of workshops with Indigenous communities across NSW in 1998. These workshops identified hundreds of issues of concern to Aboriginal people, falling into approximately 15 main categories of issues, that should be addressed by the Indigenous Fishery Strategy;
- In October 2000, the NSW recreational fishing fees policy was released. The policy exempts Aboriginal people fishing in saltwater from the recreational fishing fee, provided that they are party to a registered native title claim and are involved traditional cultural fishing as described by the Indigenous Fishery Strategy. Until the Strategy is released an interim arrangement has been implemented. Local Aboriginal Land Council members and any Aboriginal person fishing with them are exempt from the fee if fishing in the Local Aboriginal Land Council area. A practical process for issuing certificates of fee exemption is now being considered; and
- Principles for the Indigenous Fishery Strategy have been proposed.

4.5.4 Interaction of the OHFMS and the Indigenous Fishery Strategy

The time frame for the finalisation of the Indigenous Fishery Strategy is not clear, and there are many complex issues to be resolved before a sustainable strategy is agreed to by the stakeholders. It is most probable that the Ocean Hauling Fishery Management Strategy will be assessed and will commence implementation before negotiations about the Indigenous Fishery Strategy are complete.

The preliminary indications are that the Indigenous Fishery Strategy will, subject to Government funding, address many of the issues that remain as outstanding concerns to the Aboriginal community in relation to the ocean hauling fishery. It is also possible that the strategy will include a staged series of actions to gradually improve Indigenous access to the natural resources of beaches and other fisheries, ensuring that any necessary changes to the OHFMS will also be gradual.

Ongoing review of the Ocean Hauling Fishery Management Strategy will be essential to ensure that any changes in the policy approach to Indigenous fishing are adopted within the OHFMS. It is proposed that the OHFMS will be reviewed in two years, with particular attention to ensuring consistency between any Indigenous Fishery Strategy that exists at that time, and the management protocols contained in the OHFMS.

4.5.5 Further strategic actions to mitigate impacts on Indigenous fishers

It is anticipated that the consultation leading to the adoption of a new NSW policy for fishing by Indigenous fishers will address many of the outstanding concerns of the Aboriginal community. The key actions, in relation to estuaries, that are being considered for inclusion in an Indigenous Fishery Strategy (NSW Fisheries Working Paper, 2000) are noted below. There is as yet no indication as to which of these options may be included in the strategy that is agreed between the NSW Government and Aboriginal people, but discussions are continuing. Options being discussed include:

- Issue permits or change regulations to allow exemptions for the use of certain low impact fishing gear (for instance small nets, spears and traps).
- Establish closures or management rules on sites that are recognised as significant to protect traditional Indigenous fishing.
- Establishing closures on particular species for harvest by Indigenous people only, such as bimbulas (blood cockles).
- Issuing permits to allow possession and bag limits to be exceeded for certain species, areas or periods, for individual and communities.
- Bimbulas are currently under utilised and are of low interest to commercial fishers. These could form the basis of sustainable Indigenous fishing.
- Some under utilised species such as Australian salmon could become a useful base for boutique-style, value-added processing in a small artisan style fishery and processing venture that used local community labour and resources.
- Expansion of the fishery for gathering beach worms and pipis from north coast beaches for bait for recreational fishing could be a viable and sustainable scheme.
- Extensive aquaculture (ranching) of black bream, snapper and prawns in intermittent south coast lagoons could be a viable scheme.
- Establish a program (like a Fishcare Volunteer Program) with Indigenous communities, to use and pass on Indigenous knowledge about fish habitat and conservation.
- Cross-cultural training for fisheries officers, and employment of Aboriginal Fisheries officers to enhance the accessibility of fisheries information to Aboriginal communities.

- Establish an Indigenous fisheries committee (to advise the current advisory council on Indigenous issues).

NSW Fisheries is advancing new policies in relation to marine conservation areas, recreational fishery areas and aquaculture at the same time as strategies for various commercial sectors are being developed and assessed. Within this far-reaching review of fishery management, innovative opportunities for responding to Aboriginal cultural values in relation to the ocean hauling fishery (and other fisheries) may emerge. The critical action in this regard is to provide meaningful opportunities for communication and discussion of all aspects of fisheries management with Aboriginal community representatives. A secondary action is that close co-ordination is maintained between all aspects of fishery management policy as it evolves.

5.0 SUMMARY OF ACTIONS TO MINIMISE THE RISK OF IMPACT OF OCEAN HAULING FISHERY ACTIVITIES ON ABORIGINAL SITES AND INDIGENOUS ISSUES

As noted above, the risk of impacts on Aboriginal sites from ocean hauling fishery activities is considered to be low at the whole of industry level, although specific local issues will need careful management.

Many of the concerns of Aboriginal communities about the impact of current commercial fishery regulations on their livelihoods and lifestyles are being addressed through the partnership with NSW Fisheries to develop an Indigenous Fishery Strategy. However, this process may take some time, both to finalise to the satisfaction of all stakeholders, and to implement through changes to other strategies and legislation.

In the shorter term, several actions are recommended to minimise the risks of adverse interactions between ocean hauling fishery activity, Aboriginal heritage and contemporary Indigenous community issues. These include:

- Focus on enhancing communication between NSW Fisheries and Aboriginal communities at all levels. This would include:
 - cultural awareness training for NSW Fisheries staff;
 - Aboriginal membership of local area fishery management committees;
 - Employ Aboriginal liaison officers to enhance transfer of information to Aboriginal communities, and to assist with the management of culturally sensitive information;
 - Consultation with Aboriginal community representatives about proposed new fishery infrastructure along beaches that could impact on sites of cultural heritage value; and
 - Consultation with NPWS about potential impacts on known Aboriginal sites for any new infrastructure development.
- Prepare cultural awareness material for commercial fishers in the ocean hauling sector (and other sectors such as beach pipi and worm collectors who access beaches in 4WD vehicles) highlighting risks to Aboriginal sites and how these can be minimised;
- Ensure close co-ordination of the preparation of new fishery management strategies for commercial, conservation, recreational and Indigenous sectors, to enhance opportunities for identifying innovative cross sectoral management options;

- Explore opportunities for further Indigenous fishing or recreational fishing development in estuaries that are currently subject to a low level of commercial fishing activity; and
- The OHFMS should be reviewed after two years, so that changes to Indigenous fishing policies can be accommodated.

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VESSEL (TYPE-DISP'T)	DATE	VOYAGE		LOCATION OF SHIPWRECK		DATABASE REFERENCE
		FROM	TO	GENERAL	SPECIFIC (Lat/Long), [COMMENTS]	
<i>Ability</i> (Steamer-140t)	1960 [#] /1965*			Newcastle [#] /Sydney*, scuttled	Newcastle [#] /Sydney*, off	ASDB 126 [#] /FWI [#]
<i>Active</i> (Ketch-40t)	18/02/1852			Newcastle, wrecked	Hunter River entrance	ASDB 11
<i>Active</i> (Ketch-49t)	19/01/1898		Morpeth	Newcastle, wrecked, aground	near <i>Colonist</i>	ASDB 12
<i>Ada</i> (Ketch-50t)	29/04/1897			Stockton, wrecked, aground	Oyster Bank	ASDB 14
<i>Adolphe</i> (Barquentine-3204t)	30/09/1904	Antwerp	Newcastle	Stockton, wrecked, hawser parted	Oyster Bank (32.91/152.80)	ASDB 24
<i>Age</i> (Steamer Screw-2284t)	05/06/1899	Sydney	Newcastle	Newcastle, aground, refloated	Shepherds Hill	ASDB 601
<i>Alexander and John</i> (Schooner-117t)	28/08/1861	Newcastle	Sydney	Newcastle, wrecked, ashore	rudder broke, Nobbys Head	ASDB 30/FWI
<i>Alhambra</i> (Steamer screw-766t)	30/06/1888	Newcastle	Newcastle	Newcastle, wrecked, collision	near Nobbys [ASDB 445
<i>Alice</i> (Schooner-80t)	02/04/1861	Newcastle	Sydney	Newcastle, wrecked, ashore, squall	Nobbys Head	ASDB 48
<i>Alice</i> (Schooner-nk)	02/04/1901			Stockton, wrecked, ashore	Stockton Beach	ASDB 603
<i>Ann</i> (Schooner-103t)	26/01/1856			Stockton, wrecked, aground	Oyster Bank	ASDB 57
<i>Ann</i> (Ketch-28t)	13/03/1886	Sydney	Port Stephens	Newcastle, wrecked, ashore	3 nm N	ASDB 436
<i>Arcollun</i> (nk)	00/00/1862			Stockton, wrecked	Oyster Bank	FWI
<i>Atlantic</i> (Schooner-nk)	20/09/1876			Newcastle, abandoned	Newcastle, off	FWI
<i>Ben</i> (Ketch-12t)	18/10/1888			Newcastle, foundered	Newcastle, off	ASDB 551
<i>Bengal</i> (Barquentine-428t)	06/05/1872			Newcastle, wrecked	Newcastle, off	ASDB 1720
<i>Berbice</i> (Ship-760t)	05/06/1888	Melbourne	Newcastle	Newcastle, ashore, SE gale	0.5nm N of breakwater	ASDB 562
<i>Boats (2)</i> (nk)	20/05/1893	Newcastle		Newcastle, capsized	Big Ben Reef	FWI
<i>Boyd</i> (Schooner-18t)	16/07/1812			Stockton, wrecked, ashore	Stockton Beach (32.92-.75/152.20-151.78)	ASDB 102
<i>Brothers</i> (Cutter-nk)	23/12/1837			Newcastle, ashore, recovered	Nobbys	FWI
<i>Brothers</i> (Cutter-nk)	21/02/1849			Newcastle, piracy	Newcastle	FWI
<i>Bungaree</i> (Steamer Paddle -552t)	05/10/1865	Newcastle		Newcastle, sank, refloated	Nobbys, off	ASDB 115/FWI
<i>Bungaree</i> (Steamer Paddle -552t)	19/06/1866	Newcastle		Newcastle, stranded, recovered	Nobbys	ASDB 115/FWI
<i>Butcher boat</i> (nk)	07/03/1894	Newcastle		Stockton, wrecked	Stockton Beach	FWI
<i>Canmore</i> (Schooner-131t)	21/10/1854	Melbourne	Newcastle	Stockton, wrecked, aground	Oyster Bank [7/9 lost]	ASDB 1118
<i>Cawarra</i> (Steamer Paddle -552t)	12/07/1866	Sydney	Rockhampton	Stockton, wrecked, aground	Oyster Bank [60/61 lost]	ASDB 1132
<i>Ceylon</i> (nk-10t)	00/02/1834	Coal River		Newcastle, wrecked, ashore, gale	near [2/5 lost]	ASDB 1138
<i>Champion</i> (Lighter-42t)	10/05/1877	Hunter River	Hunter River	Newcastle, wrecked, coll <i>Maitland</i>	Hunter River entrance [1/3 lost]	ASDB 537
<i>Chance</i> (Ketch-39t)	28/07/1857	Richmond R.	Morpeth	Stockton, wrecked, gale, aground	Oyster Bank	ASDB 1141
<i>Charlotte</i> (Sloop-10t)	19?/09/1827	Sydney		Stockton, wrecked, ashore	(32.92-.83/151.88-.78) [4/4 lost]	ASDB 1146
<i>Charlotte</i> (nk)	~00/03/1833			Newcastle, wrecked	off [2/3 lost]	ASDB 1147
<i>City of Newcastle</i> (Steamer Pad-393t)	12/09/1878	Sydney	Morpeth	Newcastle, wrecked, ashore, fog	2 nm S at Shepherds Hill	ASDB 1155
<i>Clara</i> (Brigantine-132t)	26/07/1874	Sydney	Newcastle	Newcastle, wrecked, aground	reef S of Nobbys	ASDB 774
<i>Colonist</i> (Steamer Screw-819t)	09/09/1894	Newcastle	Adelaide	Newcastle, wrecked, navigation error	under N breakwater	ASDB 1165
<i>Commodore</i> (Steamer Paddle-187t)	03/09/1931	Newcastle		Newcastle, scuttled	3 nm E of Nobbys (124.07/151.87)	ASDB 1847
<i>Cumberland</i> (Schooner-59t)	08/04/1862	Newcastle	Newcastle	Newcastle, wrecked, swamped, gale	~2 nm off [5/5 lost]	ASDB 1185
<i>Delight</i> (Cutter-35t)	12/04/1838		Newcastle	Newcastle, wrecked, swamped	at anchor, Hunter River entrance	ASDB 1201
<i>Doorabang</i> (Steamer Screw-nk)	31/07/1873			Newcastle, wrecked	Nobbys	FWI
<i>Dover</i> (Brig-nk)	00/00/1852			Stockton, wrecked	Stockton Beach	FWI
<i>Drover</i> (Brig-nk)	10/11/1856			Stockton, wrecked	Stockton Beach	FWI

Abbreviations used:

t tons displacement' **nm** 'nautical miles' **## lost** 'the number of lives lost (from total vessel complement, where known)' **coll N** 'collision with the vessel N'
~ 'approximately' or 'about' **NSEW** and **combinations** compass points/directions **ASDB #** Fol no in the AIMA 'Australian Shipwreck Database' **FWI** Capt J Fletcher's Wreck Index

VESSEL (TYPE-DISP'T)	DATE	VOYAGE		LOCATION OF SHIPWRECK		DATABASE REFERENCE
		FROM	TO	GENERAL	SPECIFIC (Lat/Long), [COMMENTS]	
<i>Dundee</i> (Ship-nk)	15/08/1808	Sydney	Fiji	Stockton, wrecked, struck sand shoals	Oyster Bank (32.91-.88/151.8-.77) [2/4 lost]	ASDB 1214
<i>Durisdeer</i> (Barquentine-989t)	00/12?/1895	Simons Town	Newcastle	Stockton, wrecked, ashore	Stockton Beach	ASDB 589
<i>Eclipse</i> (Ketch-nk)	16/05/1850			Stockton, wrecked	Stockton Beach	FWI
<i>Elamang</i> (Steamer Screw-495t)	00/02/1905	Newcastle		Stockton, scuttled	Oyster Bank	ASDB 1225
<i>Eleanor Lancaster</i> (Ship-480t)	07/11/1856	Newcastle	Melbourne	Stockton, wrecked, aground, gale	Oyster Bank	ASDB 1226
<i>Eliza Appleton</i> (Brig-nk)	27/06/1853			Stockton, wrecked, aground	Oyster bank, seeking shelter from weather	ASDB 1233
<i>Elizabeth & Mary</i> (Schooner-nk)	14/01/1816			Newcastle, aground		FWI
<i>Elizabeth Henrietta</i> (Brig-nk)	19/12/1825			Newcastle, wrecked, struck reef	Nobbys Head, northern end (Big Ben?)	ASDB 940
<i>Emily and Mary</i> (Ketcvh-23t)	13/01/1892	Newcastle	Port Stephens	Newcastle, foundered, coll <i>Othelo</i>	off Nobbys Head	ASDB 581
<i>Endeavour</i> (Schooner-nk)	00/12/1817	Newcastle		Newcastle, wrecked, ashore	Nobbys Point	ASDB 723
<i>Esperanza</i> (Brig-117t)	16/02/1868	Newcastle	Melbourne	Newcastle, wrecked, aground	anchor parted near Bird Island [10/11 lost]	ASDB 1250
<i>Estramina</i> (Schooner-100t)	19/10/1816	Newcastle		Stockton, wrecked, aground	anchor parted, Oyster Bank (32.90-1/151.83)	ASDB 1251
<i>Fanny</i> (Brig-nk)	11/11/1853		Newcastle	Stockton, wrecked, aground	Oyster Bank	ASDB 1257
<i>Ferryman</i> (Ketch-41t)	24/06/1876			Newcastle, wrecked, ashore	north beach	ASDB 534
<i>Fishing Boat</i> (nk)	30/08/1885	Newcastle		Newcastle, foundered	Nobbys, off	FWI
<i>Fox</i> (Schooner-159t)	18/04/1864			Stockton, wrecked,	north shore, outside Scotts Point	ASDB 1273
<i>Francis</i> (Schooner-40t)	~21/03/1805	Sydney	Newcastle	Stockton, wrecked, anchor parted	N of 1805 river entrance (32.91-.88/151.80-.77)	ASDB 1274
<i>Frederick</i> (Schooner-73t)	26/06/1854	Newcastle	Sydney	Stockton, wrecked, coll <i>Waterwitch</i>	Oyster Bank	ASDB 1279
<i>Gazelle</i> (Schooner-108t)	00/07/1860	Newcastle		Newcastle, wrecked, ashore	near lighthouse (Nobbys Head).	ASDB 1286
<i>Gem</i> (Schooner-nk)	12/03/1880			Newcastle, wrecked, aground	Stockton breakwater	FWI
<i>George H Peake</i> (Brig-263)	11/07/1874	Newcastle	Melbourne	Newcastle, wrecked, coll <i>Sierra Nevada</i>	7 nm S of Port	ASDB 525
<i>Gilbert Jamieson</i> (Brigantine-106t)	00/00/1859			Newcastle, wrecked, aground,	N side of Nobbys	ASDB 1293
<i>Goldseeker</i> (Schooner-nk)	00/00/1856			Newcastle, wrecked	Newcastle	FWI
<i>Governor Arthur</i> (Cutter-nk)	24?/04/1829		Newcastle	Newcastle, wrecked, aground	Reef off Nobbys (Big Ben?)	ASDB 1298
<i>Governor King</i> (Schooner-38t)	22/04/1806	Norfolk Island	Sydney	Stockton, wrecked, dragged anchor	near wreck of <i>Francis</i> (32.91-.88/151.80-.77)	ASDB 1301
<i>Helen S Page</i> (Barque-217)	13/03/1868			Newcastle, wrecked, ashore, navigation	north beach	ASDB 1311
<i>Herculean</i> (Schooner-92t)	25/11/1863	Sydney	Newcastle	Newcastle, wrecked, ashore	Nobbys Head	ASDB 1316
<i>Hunter</i> (Schooner-58t)	02/10/1856		Newcastle	Newcastle, wrecked, blown ashore	North beach	ASDB 1328
<i>Irresistible</i> (Steamer Screw-136t)	27/08/1931	Newcastle		Newcastle, scuttled	6 nm NE	ASDB 1915
<i>Islander</i> (Slopp-106t)	17/03/1870			Newcastle, wrecked		ASDB 1337
<i>Jessie</i> (Schooner-119t)	09/05/1869	Newcastle		Stockton, wrecked, ,aground	chains parted, Oyster Bank [3/5 lost]	ASDB 1351
<i>Jonathon</i> (Ketch-43t)	04/10/1891	Tweed R.	Sydney	Stockton, wrecked, ashore	N of Oyster Bank	ASDB 577
<i>Jones Brothers</i> (TS Schooner-141t)	31/08/1905	Newcastle	Sydney	Stockton, wrecked, aground, gale	Oyster Bank near <i>Adolphe</i> [6/6 lost]	ASDB 614
<i>Joseph Weller</i> (Schooner-50t)	19/10/1837			Newcastle, wrecked, ashore	north beach near entrance	ASDB 1356
<i>Joyran</i> (Launch-nk)	70/07/1937			Newcastle, wrecked	Nobbys, south of	FWI
<i>Katoomba</i> (Steamer Screw-1006t)	00/02/1905	Newcastle	Newcastle	Newcastle, wrecked, aground	north breakwater, placed on Oyster Bank	ASDB 1364
<i>King William IV</i> (Steamer pad-81t)	02/07/1839	Newcastle		Newcastle, wrecked, ashore	Nobbys Island	ASDB 1671
<i>Laura</i> (Ketch-nk)	13/02/1869	Lk Macquarie	Newcastle	Stockton, wrecked, ashore, gale	Stockton Beach	ASDB 1778
<i>LF71</i> (Launch-nk)	07/07/1937	Newport	Newcastle	Newcastle, wrecked, hit reef	~ nm S of entrance (Big Ben?)	ASDB 1940
<i>Lilian</i> (Schooner-nk)	11/11/1872			Newcastle, wrecked	Newcastle entrance	FWI

Abbreviations used:

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VESSEL (TYPE-DISP'T)	DATE	VOYAGE		LOCATION OF SHIPWRECK		DATABASE REFERENCE
		FROM	TO	GENERAL	SPECIFIC (Lat/Long), [COMMENTS]	
<i>Lindus</i> (Steamer Screw-1678t)	04/06/1899	Newcastle	Adelaide	Stockton, wrecked, heavy sea	swamped?, Oyster Bank (on Colonist)	ASDB 1387
<i>Maianbar</i> (Steamer Screw-487t)	05/05/1940			Newcastle, wrecked, ashore	towline snapped, Nobbys Beach	ASDB 1945
<i>Margaret</i> (Schooner-33t)	12/07/1860	Newcastle	Sydney	Stockton, wrecked, coll <i>Phantom</i>	Oyster Bank [1/? lost]	ASDB 1414
<i>Margaret Chessel</i> (Schooner-65t)	04/05/1879	Melbourne	Newcastle	Newcastle, wrecked, ashore, gale	north beach [1/6 lost]	ASDB 545
<i>Mars</i> (Sloop-30t)	12/04/1816			Newcastle, wrecked, driven ashore	5nm N of harbour (35.85-.78/152.067-151.85)	ASDB 1421
<i>Mary Ann</i> (Schooner-nk)	00/01/1834			Stockton, wrecked	off Stockton Beach	FWI
<i>Mary Lloyd</i> (Cutter-nk)	05/05/1874	Newcastle		Newcastle, wrecked, ashore, squall	Nobbys Head	ASDB 526
<i>Merksworth</i> (Steamer Screw-270t)	07/05/1989	Newcastle	Sydney	Stockton, wrecked, swamped	Stockton Beach, off [9/12 lost]	ASDB 599
<i>Monitor</i> (Cutter-20t)	00/01?/1834			Newcastle, wrecked, ashore	near Newcastle	ASDB 150
<i>Mud Barge</i> (Barquentine-nk)	00/00/0000			Newcastle, scuttled	off	ASDB 1449
<i>Merry Days</i> (Launch-14t)	00/00/1912?			Newcastle, wrecked	near	ASDB 1013
<i>Messenger</i> (Schooner-38y)	12/02/1869	Sydney	Port Stephens	Newcastle, wrecked, aground, gale	near Nobbys Head [7/7lost]	ASDB 1437
<i>Monitor</i> (Cutter-20t)	00/01?/1834			Newcastle, wrecked, ashore	near	ASDB 150
<i>Nancy</i> (Schooner-74t)	09/05/1869	Newcastle	Sydney	Newcastle, wrecked, ashore	north beach [1 lost]	ASDB 1454
<i>Nautilus</i> (Brig-70t)	24/11/1816	Sydney	Nel, Batavia, Calcutta	Stockton, wrecked, aground	Oyster Bank, off Point Ross (33.02-32.8/151.86-.70)	ASDB 1456
<i>Nautilus</i> (Barquentine-166t)	20/12/1866	Sydney	Newcastle	Newcastle, wrecked, aground, gale	Big Ben Rocks off Nobbys Head	ASDB 1457
<i>Norfolk</i> (Sloop-25t)	00/10?/1800	Hawkesbury R.	Port Hunter	[Piracy] Newcastle, wrecked, ashore	Pirate Point (32.92/151.78) [15 lost]	ASDB 1464
<i>Orient</i> (Schooner-32t)	00/06/1866		Newcastle	Newcastle, wrecked, ashore	anchor stock broke, north beach	ASDB 1475
<i>Osprey</i> (Steamer Screw-208t)	30/11/1931	Newcastle		Newcastle, scuttled	Nobbys, 5nm off	ASDB 1991
<i>Otago</i> (Schooner-64t)	31/06/1867			Newcastle, wrecked	Newcastle, off	ASDB 1477
<i>Paterson</i> (Schooner-48t)	00/05/1845			Redhead or S, wrecked, ashore	off, ~5-10 nm from entrance	ASDB 1483
<i>Packet</i> (Cutter-41t)	00/07/1859			Newcastle, wrecked, ashore	Nobbys Head	ASDB 1093
<i>Phantom</i> (Brig-158t)	12/07/1860	Newcastle	Sydney	Stockton, wrecked, coll <i>Margaret</i>	Oyster Bank [1 lost]	ASDB 1490
<i>Phoebe Dunbar</i> (Ship-704)	07/03/1864			Newcastle, wrecked, fire, ashore	in surf 50 yds from north beach	ASDB 1491
<i>Pluto</i> (Steamer Screw, Dredge-nk)	05/06/1957	Newcastle		Newcastle, wrecked	Newcastle breakwater, inside	FWI
<i>Ranger</i> (Schooner-88t)	24/06/1891	Tweed R.	Sydney	Stockton, wrecked, ashore, squall	Stockton Beach	ASDB 578
<i>Recovery</i> (Schooner-nk)	26/5/1842			Stockton, wrecked	Stockton Beach	FWI
<i>Redpole</i> (nk)	00/04/1834			Newcastle, wrecked, swamped	off Hunter River entrance [>1 lost]	ASDB 17
<i>Regent Murray</i> (Barquentine-849t)	04/04/1899	Adelaide	Newcastle	Stockton, wrecked, ashore, gale	Oyster Bank	ASDB 1525
<i>Resource</i> (Schooner-19t)	00/09/1814	Newcastle	Sydney	Newcastle, wrecked	off (33.83-32.9/151.86-.26)	ASDB 1528
<i>Rialto</i> (Barquentine-303)	26/12/1870	Melbourne	Newcastle	Stockton, wrecked, aground, gale	Oyster Bank, 1000 yds N of breakwater	ASDB 1529
<i>Richmond</i> (Dredge-nk)	24/11/1934	Newcastle		Newcastle, scuttled	off (33.50/152.23)	ASDB 2014
<i>Rob Roy</i> (Schooner-47t)	00/07/1838			Newcastle, wrecked, ashore	Nobbys Head	ASDB 888
<i>Roderick Dhu</i> (Schooner-76t)	13/07/1866			Stockton, wrecked	'Newcastle' Bight, 14 nm S/Port Stephens	ASDB 1531
<i>Rover</i> (Schooner-66t)	09/11/1856	Newcastle	Sydney	Stockton, wrecked, aground, gale	dragged anchor, Oyster Bank	ASDB 1541
<i>Runette</i> (Launch-13t)	00/10/1947			Newcastle, wrecked, burnt		ASDB 2021
<i>San Pan</i> (Yacht-nk)	18/04/1936	Lk. Macquarie	Sydney	Newcastle, wrecked, hit reef	Big Ben Reef	ASDB 2023
<i>Sarah Wilson</i> (Brigantine-30t)	13/04/1848	Sydney	Newcastle	Newcastle, wrecked, hit reef	Nobbys Head (Big Ben?) Reef	ASDB 1554
<i>Sea Gull</i> (Schooner-64t)	13/07/1866	Richmond R.	Sydney	Newcastle, wrecked	off Newcastle Lighthouse	ASDB 1558
<i>Sea Gull</i> (Ketch-14t)	00/09/1876		Sydney	Newcastle, wrecked, supp. foundered	near Nobbys Head [3/3 lost]	ASDB 536

Abbreviations used:

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~ 'approximately' or 'about' NSEW and combinations compass points/directions ASDB # Fol no in the AIMA 'Australian Shipwreck Database' FWI Capt J Fletcher's Wreck Index

VESSEL (TYPE-DISP'T)	DATE	VOYAGE		LOCATION OF SHIPWRECK		DATABASE REFERENCE
		FROM	TO	GENERAL	SPECIFIC (Lat/Long), [COMMENTS]	
<i>Shamrock</i> (Schooner-160t)	13/11/1861	Sydney	Newcastle	Stockton, wrecked, aground/ashore	Oyster Bank/drifted ashore N	ASDB 1563
<i>Sir David Ogilby</i> (Schooner-99t)	19/09/1840	Newcastle	Sydney	Stockton, wrecked, ashore	missed stays, extreme end of north spit	ASDB 1564
<i>Sophia</i> (Schooner-nk)	26/07/1826	Newcastle		Stockton, wrecked, ashore	near Oyster Bank (32.91-.78/152.07-151.78)	ASDB 1570
<i>Southland</i> (Steamer Paddle-143t)	03/07/1876	Sydney	Newcastle	Newcastle, wrecked, coll <i>Waratah</i>	towing <i>Lady Belmore</i> , off	ASDB 1573
<i>Star of Peace</i> (Schooner-50t)	15/07/1864	Newcastle	Sydney	Stockton, wrecked, ashore	tow rope broke, north shore beach	ASDB 1582
<i>Storm Cock</i> (Steamer Screw-148t)	00/02?/1930	Newcastle		Newcastle, reported scuttled	off	ASDB 726
<i>Storm King</i> (Schooner-nk)	00/11/1856	Newcastle	Sydney	Newcastle, wrecked		ASDB 419
<i>Surprise</i> TS Schooner-90t)	01/02/1874	Newcastle	Sydney	Stockton, wrecked, aground	Oyster Bank	ASDB 432
<i>Surprise</i> (Sloop-24t)	00/04?/1805	Sydney	Newcastle	Stockton, wrecked, ashore	2 nm N of entrance (32.92-.8/151.83-.76)	ASDB 1587
<i>Susan Gilmour</i> (Ship-1141)	03/07/1884	Sydney	Newcastle	Merewether, wrecked, ashore	tow parted, Susan Gilmore Beach	ASDB 1590
<i>Transport</i> (Brig-307t)	00/02/1888			Stockton, wrecked, broke up	Stockton Beach	ASDB 570
<i>Trimmer</i> (Sloop-20t)	00.07?/1805	Hawkesbury R.	Sydney	Newcastle, wrecked, foundered	near (33.02-32.8/151.88-.70)	ASDB 1614
<i>Unidentified</i> (nk-2030)	00/08/1835			Stockton, wrecked, ashore	Stockton Beach	ASDB 1767
<i>Unidentified</i> (Barge-nk)	09/09/1890	Newcastle		Newcastle, wrecked, capsized	~ nm off Nobbys Head [see Unnamed Silt Punt]	ASDB 2127
<i>Unity</i> (Steamer Screw-52t)	03/05/1907	Botany	Port Stephens	Stockton, wrecked, ashore	Stockton Beach	ASDB 620
<i>Unity</i> (Ketch-42t)	27/11/1862	Morpeth	Sydney	Newcastle, wrecked, ashore	missed stays, under Nobbys Head	ASDB 1631
<i>Unnamed Silt Punt</i> (Lighter-nk)	09/09/1890	Newcastle	Spoil ground	Newcastle, wrecked, capsized	~0.5 nm off Nobbys Head (see Unnamed Barge)	ASDB 1753
<i>US Army-Unnamed</i> (Motor Tug-nk)	27/07/1945			Newcastle, wrecked	Susan Gilmore Beach	FWI
<i>Victor</i> (Brig-227t)	17/03/1866	Newcastle	Melbourne	Newcastle, wrecked, ashore	wind failed, Nobbys Head under Harbourmaster	ASDB 1637
<i>Vixen</i> (Brigantine-46t)	02/09/1858	Newcastle	Sydney	Newcastle, wrecked, struck rocks	Nobbys Head (Big Ben?)	ASDB 1644
<i>Vulcan</i> (Sloop-28t)	24/12/1837	Sydney	Hunter River	Newcastle, wrecked, capsized, gale	entrance to Hunter River [6/6 lost]	ASDB 1645
<i>Waratah</i> (Schooner-109t)	00/06/1864	Newcastle	Sydney	Newcastle, wrecked	off [-7, all hands, lost]	ASDB 1653
<i>Waterwitch</i> (Brig-nk)	25/06/1854	Newcastle	Sydney	Stockton, wrecked, aground	wind failed, Oyster Bank	ASDB 1090
<i>Wendouree</i> (Steamer Screw- 1640t)	20/07/1898	Newcastle	Adelaide	Stockton, wrecked, aground	Oyster Bank	ASDB 1658
<i>Western Star</i> (Brig-124t)	15/07/1904	Cairns	Sydney	Newcastle, wrecked, coll <i>Tagliafero</i>	off [4/7 lost]	ASDB 613
<i>William Watson</i> (Barquentine-384t)	13/07/1866	Nelson, NZ	Newcastle	Stockton, wrecked, ashore	beached [2 lost]	ASDB 1668
<i>Windhover</i> (Brig-207t)	13/12/1874	Sydney	New Zealand	Newcastle, wrecked, foundered	off (33.16/153.16)	ASDB 529
<i>WST1</i> (MV-325t)	27/07/1945			Merewether, wrecked, ashore	Susan Gilmore Beach	ASDB 2072
<i>Yarra</i> (Schooner-121t)	01/02/1874	Newcastle	Sydney	Newcastle, wrecked, ashore	cables parted, north beach	ASDB 530
<i>Yarra Yarra</i> (Steamer Paddle-555t)	15/07/1877	Newcastle	Sydney	Stockton, wrecked, swamped	off Stockton Bight (32.90/151.8) [17 lost]	ASDB 1680
<i>Yua Wha</i> (MV-230t)	05/01/1947	Sydney	China	Newcastle, wrecked, foundered	5 nm S (32.88/151.90)	ASDB 2091

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RESOURCE (Alphabetically Listed)	LOCATION	NATURE OF RESOURCE	PRIM'Y REF'CE	RESOURCE STATUS	SIGNIF'CE CLASS
Bogie Hole	3 Reserve Road, Newcastle	Ocean Baths hewn from rock shelf, convict-built 1819-22	NAMP: 0125	Site Surface	Arch/Hist/Scient/ Social
Macquarie Pier	Nobbys Road, between N side of Signal Hill and Nobbys Head	Breakwater over existing rock shelf, commenced 1818, renewed 1830, completed 1846 by convict labour; reconstructed 1860	NAMP: 0002	Site Surface	Arch/Hist/Scient/ Social
Merewether Ocean Baths	On rock shelf off Henderson Parade, Merewether	Hewn and finished rock shelf swimming pool with ocean access; constructed to provide safe swimming after the Gulf was taken over for sewerage outfall and earlier baths were contaminated by sewage	DLEP: E-13 DIX: C15	Site Surface	Arch/Hist/Social
Newcastle Beach	Shortland Esplanade	Easterly component of Newcastle's earliest recreation reserve, earliest beach recreation/hygiene sea-bathing, as well as earliest coal mining; subsequent site of segregated male/female recreational bathing, formal Ladies Beach from ~1900, integrated 1920s	PIC: GPO1- 10918 GPO1- 10919	Surface	Hist/Social/Aes
Newcastle Ocean Baths	On rock shelf, N end of Newcastle Beach	Pool represents provision of safe saltwater bathing facilities by local government, replacing derelict Soldiers Baths	SPPM: 81	Site Surface	Arch/Hist/Social
Nobbys Beach	Nobbys Road	Effectively a human construct, Nobbys Beach resulted from the construction of Macquarie Pier and the modification of coastal current flow	PIC: BCP 05281	Surface	Hist/Social/Aes
Nobbys Head	NE end of Nobbys Road	1840s, Barney planned to blow up the island. Lighthouse and residences since 1858, beacon moved from Signal Hill; WWII OP, searchlight post and generator, gun emplacement.	NAMP: 1001	Site/Potential Site Surface/Subsurface	Arch/Hist/Scient
Nobbys Head Railway	Along Macquarie Pier from the former GNR goods/marshalling yards	Used c.1862-83 to bring in Waratah stone to rebuild/extend Macquarie Pier to Big Ben Reef; later to carry sand inland	NAMP: 1002	Site Subsurface	Arch/Hist/Scient
Pirate Point	Formerly the easternmost point of the northern bank of the Newcastle Harbour entrance	Site of Pirate Point sandspit, north head of harbour, on which colonial schooner <i>Norfolk</i> was wrecked after having been seized by convicts at Hawkesbury River, 1800; site of numerous groundings and other wrecks of shipping	Callen: 19, 36 <i>et seq</i>	Site	Hist
Shipwreck Walk	Northern Breakwater, Newcastle Harbour	Modern signage on the northern breakwater records the location of shipwrecks at harbour entrance and the southern aspect of the Oyster Bank [eg: <i>Cawarra, Colonist, Lindus, Adolphe, Wendouree, Mud Punts, Katoomba, Elamang, Regent Murray, Eleanor Lancaster</i>]	Callen 63-67	Site Surface-land Sub-surface-maritime	Hist Arch/Hist/Scient
Soldiers Baths	Remains of a rock wall on the shelf to water's edge, N end of Newcastle Beach	Remains of the reputed first-constructed public ocean baths in NSW, constructed by Newcastle Borough Council 1882.	NAMP: 1215	Site Surface	Arch/Hist/Scient/ Social

Abbreviations used:

Significance Classes:

Arch Archaeological, **Hist** Historical, **Scient** Scientific, **Aes** Aesthetic
B,TP: # Barney, N, 1997. *Times Past*, page no.
Callen: # Callen, T, 1994. *Bar Safe*, page no.

DIX: refers to Dixon, J, 1935. *History of Merewether*

LEP: (Draft) *Local Environment Plan*

NLH: Newcastle Regional Library [Local History]

NAMP: # Newcastle Archaeological Management Plan, Inventory no.

PxB: Hunter Photobank, Newcastle Regional Library, catalogue no.

IC: Picman database, State Library of NSW

RNEDB: Register of the National Estate Database

SPPM: Newcastle CC *Heritage Places Strategic Plan/Plans of Management*

OCEAN HAULING CODE OF CONDUCT

OCEAN HAULING FISHERY OCEAN BEACH HAUL CODE OF CONDUCT FOR THE 2001/02 SEASON

1.0 GENERAL

- 1.1 Endorsed fishers will comply with local Council and NSW National Parks and wildlife Services (NPWS) by laws. Endorsed fishers must comply with the codes of conduct for fishers prepared by these organisations where these codes have been tabled before the Management Advisory Committee.
- 1.2 Endorsed fishers will not undertake any activity that brings the industry into disrepute or breaches any local arrangements agreed by the Management Advisory Committee.
- 1.3 Endorsed fishers will maintain public liability insurance policies to a minimum value of \$5 million while endorsed to operate in this fishery.

2.0 ACCESS TO BEACHES

- 2.1 Endorsed fishers will only use local Council or NPWS approved access points. Endorsed fishers will not make their own access tracks and will comply with any periodic closures of access points by these authorities.
- 2.2 Endorsed fishers will work with local Councils to signpost entry and exit points used by licensed fishers as well as the traditional hauling grounds agreed by the Management Advisory Committee.
- 2.3 Endorsed fishers will co-operate with a system of locked gates where appropriate and will safeguard keys issued to them.

3.0 VEHICLE USE

- 3.1 Endorsed fishers will obtain 4WD vehicle permits from local Councils or NPWS if required by that authority.
- 3.2 Endorsed fishers will drive in a safe manner at all times. Endorsed fishers will abide by a general limit of 30 km/hr on beaches. Endorsement holders will not drive on a beach in excess of 5 km/hr in flagged areas or when passing within 10 metres of other beach users. Endorsed fishers may travel at 50 km/hr on particular beaches agreed with local Councils or NPWS.
- 3.3 Endorsed fishers will operate flashing lights or hazard lights on their vehicles while travelling along a beach.
- 3.4 Endorsed fishers, when travelling on beaches or engaging in fishing operations, will display clearly and legibly in letters and numerals at least 150mm in height on each side of their vehicles:

Source: Draft- For OH MAC and Advisory Councils August, 2001-10-03

- the number corresponding with their endorsed region in a circle followed by the letters LFB and the number of their boat (or the boat licence number of the skipper of the crew if they do not own a LFB)
- the information notice supplied by NSW Fisheries

This information will be affixed to the vehicle itself or boards displayed on the sides of the vehicle.

- 3.5 Endorsed fishers will minimise, as far as possible, the number of vehicles parked on beaches and will not exceed the number of vehicles agreed with the local Council for specific beaches.
- 3.6 Endorsed fishers will use only vehicles registered by the Road Traffic Authority in fishing operations or while travelling on beaches.
- 3.7 Endorsed fishers will not drive their vehicles on frontal sand dunes and will minimise, as far as possible, their impact on the landscape.

4.0 HANDLING OF FISH

- 4.1 Endorsed fishers will leave the beach clean at all times removing any litter as they leave the beach.
- 4.2 Endorsed fishers will deploy their gear in a way to minimise capture of prohibited size fish. The priority is to remove such fish first and release them in the water with the least possible harm. If a large number of prohibited size fish are killed the local Fisheries Office must be contacted within 3 hours of the incident.
- 4.3 Endorsed fishers will not target Tailor using gear prescribed for use within the ocean haul fishery.
- 4.4 Endorsed fishers will not bury fish in the dune system.
- 4.5 Endorsed fishers will comply with the instructions of local NSW Fisheries Officers about the handling of fish and, in particular, ice and storage requirements.

5.0 RELATIONS WITH OTHER BEACH USERS

- 5.1 Endorsed fishers will not allow any person to assist in any way in the operation of their nets unless they are a licensed commercial fisher holding an ocean haul endorsement in the same region where the hauling operations are taking place. Other persons may assist in the removal of the fish from the net provided that they are not the holder of a commercial fishing licence.
- 5.2 Endorsed fishers will not conduct a shot of a net within 100m of flagged bathing areas.
- 5.3 Endorsed fishers will co-operate with dune care and environment groups.

- 5.4 Endorsed fishers will not use lights, other than hand held torches, to locate or land fish except on the traditional hauling grounds agreed with the Management Advisory Committee and identified in the public notices published in the NSW Government Gazette.
- 5.5 Endorsed fishers will provide, on request, their photographic identification cards to any person who requests identification.
- 5.6 Endorsed fishers will keep a copy of the 2001/02 Code of Conduct in their vehicle and make this copy available to members of the public upon request.

6.0 PRIORITY RIGHTS

- 6.1 Endorsed fishers will recognise and abide by priority rights of all other fishers as specified in the Act and regulations.
- 6.2 Endorsed fishers will produce photographic identification cards to other fishers to ensure the required number of endorsed fishers for priority of shots are present.