Cumberland 1915-1917
The Sydney Project surveys
Oct 2003 - June 2004

NSW Heritage Office
Maritime Heritage Program
PARRAMATTA 2004

Cumberland Project Independent Team: “The Sydney Project”
Report prepared by: Tim Smith
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Greg Hodge
Mark Ryan

Research assistance from:

NSW Heritage Office

Figure 1: Cumberland holed and limping to Gabo Island for grounding. Courtesy: Melbourne Argus.
1. ACKNOWLEDGEMENTS

The NSW Heritage Office would like to acknowledge *The Sydney Project* team who have supplied all site information and underwater images presented in this summary report of their independent activities.

*The Sydney Project* recreational dive team initiated the diving inspection of the *Cumberland* wreck site. All survey operations were coordinated and funded by the team members. The NSW Heritage Office assisted *The Sydney Project* team’s interpretation of the observed Historic Shipwreck site, through the provision of historical research reference materials and GPS site location information. However due to the depth of the site, beyond established recreational and commercial diving limits, the Heritage Office was not involved in any aspect of the diving activities or tasking of personnel.

*Project Cumberland* is a valuable addition by members of the recreational diving industry who seek to assess, interpret and protect the shipwreck heritage of New South Wales through independent dedicated non-disturbance documentation projects.
1 EXECUTIVE SUMMARY

The Sydney Project undertook their independent October 2003 – June 2004 survey of the Cumberland wreck site to showcase their member’s deep wreck diving skills, including the assessment and documentation of key Historic Shipwreck sites, and their ability to obtain video and still images in challenging conditions.

Team members willingly provided all survey data to the NSW Heritage Office and to make it available for wide public dissemination through the agency’s award-winning web site http://maritime.heritage.nsw.gov.au, and other media (eg dive magazines, newsletters and general interest magazines).

This independent site survey is consistent with the underwater heritage site investigation and management aims of the Heritage Office, which implements the NSW Underwater Heritage Program. However, the depth of the site precludes site-based survey operations by the agency, or the direction or involvement with other diving activities at the site, due to liability issues.

The Cumberland site is a protected Historic Shipwreck under the provisions of the Commonwealth Historic Shipwrecks Act 1976. The Director of the NSW Heritage Office is delegated with administering certain actions under the legislation on behalf of the Commonwealth, as part of the National Historic Shipwrecks Program. In that regard, the Heritage Office monitors diving activity at the site to ensure that all interactions with the Historic Shipwreck are consistent with best practice and in line with the legal protection of the site.

2 SURVEY AIMS

2.1 Cumberland 1917

The survey target was the wreck of the steel international freighter, Cumberland, built in Glasgow, Scotland in 1915, and one of the latest cargo carriers then steaming the world's oceans. Unexpectedly in 1917, the large vessel struck a minefield laid secretly by the German commerce raider ss Wolf, off the NSW south coast. Fatally holed, Cumberland was turned towards the nearest land, Gabo Island, and beached before it sank. After some five weeks of strenuous repairs, Cumberland was towed to the nearest port, Eden, for more complete works. During that towing process, it sank in mounting seas some four miles south of Greencape, NSW, and became a total wreck.

2.2 Historic Shipwreck – insights into our maritime past

Shipwrecks hold a particular fascination for their association dramatic events, often with loss of life and property

Shipwrecks, once located, form a focus of detailed study. They act as markers to earlier historic events, allowing divers and others the opportunity to return to the exact scene of an incident.

By carefully recording and interpreting these fragile sites, direct access can be made to a past era. Information can be obtained on a range of themes, such as ship technology, transport, trade and industry. Special insights can be made into life on board through the
goods and possessions they carried. Often this information has not survived in contemporary historic records.

Communities benefit from learning about local maritime history. This history can be interpreted through a range of activities including publications, dive tourism, land-based shipwreck walking trails and signage, and school study programs. The information can be disseminated through a variety of media such as plaques, video, CD’s, books, research articles, etc.

3 THE CONTEXT OF SHIPPING DISASTERS NEAR GREEN CAPE and LORD HOWE ISLAND

The southern coastline always caused concern to shipping due to the strong seas frequently observed around the Cape Howe/Disaster Bay area. Disaster Bay appears to have earned its name from the frequency of shipping disasters to have occurred there, some nine vessels recorded lost, the first major casualty being the coastal steamer City of Sydney in 1862. Other Prominent disasters included the barque Lanercost in 1872 and the horrific loss of the steamer Ly-ee-Moon on the tip of Green Cape in 1886. Several other large vessels continued to be wrecked in the area, including the New Guinea in 1911.

Twofold Bay also attracted a number of early losses due to its growing importance as a port and safe haven. Some nineteen vessels are recorded lost in Twofold Bay or surrounding areas. The earliest recorded loss being the timber sloop George as early as 1806. Many of these disasters can be accounted for due to the extreme sea and storm conditions which frequent the area. Some vessels were lost due to fog or running too close to the coast on inshore currents. Other disasters were caused due to human error such as trying to cut down voyage times by skirting too close to the coast.

At least four shipwrecks have be located off Green Cape in the vicinity of the Cumberland, they are listed below:

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Tons</th>
<th>Built</th>
<th>Length</th>
<th>Lost</th>
<th>Where Lost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terrace Star</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1994</td>
<td>North West of Green Cape, NSW</td>
</tr>
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</table>
Cumberland 1917: Maritime Archaeological Survey

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Year</th>
<th>Length</th>
<th>Date</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ly-ee-moon</td>
<td>Steamer</td>
<td>1202</td>
<td>1859</td>
<td>30/05/1886</td>
<td>South East of Green Cape, NSW</td>
</tr>
<tr>
<td>New Guinea</td>
<td>Steamer</td>
<td>2674</td>
<td>1884</td>
<td>02/03/1911</td>
<td>South West of Green Cape, NSW</td>
</tr>
<tr>
<td>City of Sydney</td>
<td>Iron steamer</td>
<td>735</td>
<td>1853</td>
<td>1862</td>
<td>South West of Green Cape, NSW</td>
</tr>
</tbody>
</table>


3.1 Shipwreck visitation

Historic shipwrecks have traditionally been a focus of recreational attention by SCUBA divers and other coastal users. With approximately 6,500 Historic Shipwrecks located around the Australian coast and along inland waterways, there are many opportunities to visit and explore these reminders of a former age. Many of the sites are associated with sensational stories and sagas, abound in marine life, and are unique in terms of the rewarding learning experience they offer.

The Cumberland wreck is becoming a focus of deep wreck technical divers keen to explore previously unchartered depths and new heritage experiences. However, due to the depth of the site, few have the requisite experience to reach the site and dive support. Hence the site is effectively limited to a handful of divers, thought to be in the vicinity of less than 30 nationally. Diving operations at the site are undertaken at an individuals risk.

4 METHODOLOGY

4.1 Background research

The NSW Heritage Office has, since 1988, assembled historic reference materials related to the loss of Cumberland, as part of the NSW Historic Shipwreck Database. That information is accessible via the internet through the Heritage Office’s Maritime Heritage Online web site http://maritime.heritage.nsw.gov.au.

4.2 Survey approaches and equipment deployment

Cumberland is a huge, complex, archaeological site comprising a range of physical remains and materials. From elements associated with the hull and fittings, to items of cargo, crew possessions, and contemporary salvage plant, the site deserves proper analysis and careful interaction. The Cumberland Project therefore aimed to provide the dive team with an initial understanding of site layout, key features, complexity of structure, and state of collapse.

Site plan

A key focus of the survey was the preparation of a site sketch. This enabled visible features to be recorded and an analysis of site layout, materials and major elements to be conducted. The survey was a ‘pre disturbance’ investigation, where only surface exposed features were examined. The team was conscious that this was only a portion of the probable extent of buried hull and associated relics. Future disturbance of this historic
fabric would require standard approvals under relevant legislation, professional supervision, conservation support, funding, etc.

Survey techniques
The survey technique aimed to initially ascertain the scale, layout, orientation and complexity of the wreck site. Survey technique, constrained by short diver-in water time, prioritised an examination of the size and complexity of the wreck site. Using scoters the extent of the wreck site, its orientation and obvious structural elements were recorded. This was augmented via the use of video and still photography.

Photography
Constraints of diver in-water time meant that only the larger features of the wreck could be initially surveyed. The scale and complexity of the site prevented finer details and relative associations of objects to be surveyed in detail.

Video and general still photography was used to capture the appearance of the wreck and when possible to obtain additional details of key features. Still photography was undertaken with a housed 16mm F/E lens, high speed film and twin Ikelite SS200 strobes. Video footage was taken on a digital camera.

4.3 Composition of the team
The team of eight divers were from the technical diving group, The Sydney Project. The team members comprised David Apperley, Samir Alhafith, Jason McHattan, Paul Garske, Simon Mitchell, Kevin Okeby, Peter Szyszka and Mark Spencer.

4.4 Constraints

Weather and sea conditions
The Cumberland lies in open water some five miles off the southeast coast of Green Cape, New South Wales. The area is frequently exposed to heavy seas and strong currents.

During diving operations on the Cumberland calm seas, with virtually no current, were experienced on both days. Visibility reached a maximum of 14 metres but illumination was poor.

Diving Operations
The Cumberland lies in over 94m of water. At this depth the site is beyond established recreational and commercial diving limits. Consequently the Heritage Office was not involved in any aspect of the diving activities or tasking of personnel. The Sydney Project team however liaised fully with The Heritage Office during the coordination of the survey operation.

The diving operation was undertaken by the Sydney Project over two days, 8th and 9th November, 2003. Once the team arrived at the site, they sounded for the most obvious part of the wreck and prepared a shot line to be deployed. This included the teams Depth Accelerant in form of a one metre long railway track with fins welded to help the track fall vertically. A floating decompression station was also deployed. It was equipped with two shark pods and extra cylinders of EAN 40 and 100% oxygen hanging at appropriate depths. All backup gas was staged on shot lines.

The team was divided into two groups allowing one group to dive and the other to deploy the decompression station. All eight divers dived on the first day of the operations and five
on the second day. Dives were undertaken using Tri-mix open circuit or “Inspiration” rebreather closed circuit systems. Five divers were on mixed closed circuit rebreathers (3 Inspirations, 1 MK15, and 1MK15.5) and the other three divers on open circuit. Descent time was 4 to 5 minutes, water temperature 11° C and visibility ranged from 10-15 metres. There was little ambient light. Maximum depths recorded were 97 metres with bottom times ranging between 17 to 27 minutes depending on equipment used.

**Past activity at the site**
Research has indicated that a salvage event at the site between 1951 and 1953 resulted in substantial damage to the deck and hull areas. This was confirmed during the 2003 survey. Damage to the hull was recorded and debris from salvage works was noted to the side of the wreck. The 1950s activity has had an impact on the full archaeological potential of the site.

**Non-disturbance archaeological survey**
The November 2003 survey operations were undertaken by *The Sydney Project* in liaison with The Heritage Office, as a standard ‘non-disturbance’ archaeological exercise. Only exposed and therefore visible portions of the wreck site were recorded. At no stage was the overburden of protective sand removed from any portion of the site. The depth and complexity of buried portions of the wreck was not explored.

This approach avoided direct disturbance of archaeological materials as well as associated accelerated deterioration. It has retained relics, large and small, from their original context and retained the research potential of the site. A survey that involved recovery of artefacts would require approval of an archaeological permit under s139 of the NSW *Heritage Act* 1977. It would also require a tight network of control points to measure and track shipwreck and artefact associations, substantial conservation and laboratory support, archaeological supervision, and provision of ongoing storage, identification, research and display.

The ‘non-disturbance’ approach used by *The Sydney Project* in consultation with the Heritage Office, has advanced the protection of the site while allowing quite complex evaluations to be made. In the event that site conditions do change and new parts of the site are exposed an extension of survey operations can be undertaken.

The non-disturbance archaeological survey confirmed the wreck as that of the *Cumberland*. Initially indicated by the size and structure of the wreck, the archaeological survey produced more conclusive confirmation of the ships identity. This included the identification of the letters “U”, “M” and “E” on bow plating and evidence of structural damage to the forward hold. The latter was consistent with damage caused by explosives used during the 1950s salvage operations. A debris field to the side of the wreck provided further evidence of these salvage efforts. Also recorded during the archaeological survey were remnants of the ships former cargo. Animal bone and a metal ingot were scattered around the wreck.

With short bottom times and poor illumination, accurate recording of the wreck size, layout etc was not possible. However, using scoters the wreck’s dimensions were investigated within the available bottom times. From these observations a mud sketch of the extent of the wreck site has been compiled. Information from the dive team has also augmented the sketch providing more details on various aspects of the ship design.

A second independent non-disturbance archaeological survey of the wreck was undertaken by the Maritime Archaeology Association of Victoria (MAAV) in November 2003. Similarly,
that survey reconfirmed the location of a large debris field to the side of the main wreck. Limited bottom times prevented more detailed recording.

Many dives will be required to cover the entire extent of the wreck. Opportunities include the deployment of remote operated vehicles (ROV) fitted video systems. It is envisaged that a Sydney Project and MAAV partnership will coordinate future diving operations on the Cumberland wreck. This will be undertaken in liaison with the Heritage Office who will continue to provide advice on a “best practices” approach in the interaction with the site and guide future non-disturbance archaeological surveying of the wreck.

Research
Available research sources included newspaper clippings held by significant repositories such as the Mitchell Library in Sydney. In terms of the vessel, primary source data was located in registry records such as the Lloyds Register of British Shipping. Pictorial material was restricted to a number of images of the damaged vessel published in contemporary newspaper articles. No images of the vessel during normal operations prior to the incident have been identified, nor original survey plans.

5  THE PHYSICAL SETTING

5.1  Greencape, Disaster Bay, Gabo Island
The waters along the southeast coast of New South Wales form part of the significant eastern Australian seaboard trading route. However, due to a variety of factors, a number of vessels have been wrecked or damaged in shipping accidents. Depending on where an incident occurred, a vessel could have been recovered, partially salvaged, or totally lost to the actions of sea, swell and physical collapse.

The Cumberland sank some five miles off the southeast coast of NSW. It now rests on the seabed in 94 m of water and rises in height by up to 14m with a surrounding seabed dominated by silty sand on the edge of a complex limestone reef (Howe Reef) (Appendix A).

6  LEGISLATIVE CONTROLS
Shipwreck sites and associated relics over seventy five (75) years of age in waters managed by the Commonwealth are protected from disturbance by the Commonwealth Historic Shipwrecks Act 1976. Divers are free to visit these sites as long as they do not disturb or alter the sites in any way. Because of the nature of The Sydney Project investigations – a non-disturbance visual survey – a permit for the work was not required from the NSW Heritage Office.

7  THE SITE – ITS HISTORY

7.1  Cumberland 1915-1917
A huge explosion and geyser of water was the first indication that the huge international freighter Cumberland was in trouble. The steamer was passing a few miles off Gabo Island on 6 July 1917. No one on board could have known that a German merchant raider, the steamer Wolf, had laid a deadly minefield near Gabo Island, right in the track of vessels
using the eastern Australia seaboard trade route. Today few realise that Captain Nerger and his vessel Wolf had brought the European war right to the doorstep of Sydney and southern ports.

At the time of the explosion, many believed that a saboteur had planted a bomb in the forward holds, perhaps when Cumberland loaded cargo at Townsville. It was not until the Wolf's activities became understood that the link was suspected. The event created great concern internationally – the Prime Minister, Billy Hughes, raised the Cumberland incident in Parliament, while the American Government feared attacks on its merchant fleet. Cumberland became the first wartime casualty in home waters. When the explosion rocked the Cumberland, the steamer was heading down the east coast for a voyage to the United Kingdom after picking up cargo in Townsville, Bowen and Sydney.

Figure 3: IJN’s Chikuma. After: Janes, Fighting Ships of World War One. London. Studio Edition.

Under command of Captain McGibbon, the steamer sent out an SOS message which was relayed to the Japanese light Cruiser Chikuma, then on station protecting Australia’s east coast from enemy vessel activity.

With water flooding into the forward section, Cumberland limped to Gabo Island and was run aground for urgent repairs.

7.2 The vessel

Cumberland was a steel twin screw steamship of 8993 gross tons, 144.4 metres in length (474 feet). It was built in 1915 at Glasgow, Scotland, by Hamilton & Company and registered in London with Official No. 139102. The four masted steamer was owned by the Federal Steam Navigation Company Ltd., and powered by four steam turbines. Of the latest merchant ship design, Cumberland had a cruiser (naval type) stern and modern appliances for handling refrigerated and ordinary cargo. It was of the shelter deck type, with a bridge deck, deck houses aft and a promenade deck.
Cumberland 1917: Maritime Archaeological Survey

Figure 4: Cumberland almost beached at Gabo Island. Melbourne Argus, 3 August 1917.

7.3 Cargo

Due to wartime restrictions, few details are available on the cargo carried by Cumberland. Newspapers noted bulk frozen meat, while other cargo included “enormous quantities of Red Cross comforts” (The Lone Hand, 1 June 1918).

When partly salvaged in 1951 the wreck was known to have also contained a rich cargo of copper and lead ingots. The salvage vessel, Foremost 17, successfully recovered approximately 1825 tons of ingots which they believed to be 95% of that cargo. Foremost 17 was operated by British salvage firm, Risdon Beasley & Co. This was a significant salvage operation for the time and involved the unique deployment of a diving bell over the wreck.

This followed an earlier 1938 failed attempt by salvage interests to relocate the wreck using Viking Queen (Herald, 5 December, 1951).

7.4 Run aground for repairs

With water flooding into the forward section, Cumberland was run aground on Gabo Island for urgent repairs. A diver from the Japanese cruiser Chikuma first inspected the hole which was estimated to be 30 feet (9 metres) in diameter. The Australian light cruiser HMAS Encounter arrived next on the scene, while vessels were dispatched from Sydney and Melbourne with dedicated salvage equipment, including pumps and mooring gear. An estimated eleven pumps were used in the operations, many presumably lost when the vessel was finally lost.

Naval and Harbour Trust divers were deployed patching the hole by removing jagged plating, attaching sturdy timber bracing and patches made from layers of canvas. Several vessels were involved in the work including the Illawarra & South Coast Steam Navigation
Company's steamers Merimbula and Bermagui, the tugs Champion and James Paterson (Argus, 3 August 1917).

**Figure 5:** TSS Cumberland was imaged by CSIRO, Hobart for the first time in 2000 using a SIMRAD EM1002 swath mapping echo sounder. © CSIRO, Rudy Kloser.

### 7.5 Sank steeply bow first

After some five weeks of strenuous repair work by divers and a dedicated salvage team, the tugs James Patterson and Champion were in attendance when the steamer was towed back to Eden for further repairs. However, a storm caused the temporary patches to break and the tugs had to run for safety. Merimbula and Bermagui stood by to offer help, the former urgently evacuating Cumberland's crew when the steamer began to sink bow first – "described by onlookers as an awe-inspiring sight".

The Cumberland sank about four miles south-east of Green Cape, NSW, on Saturday 12 August 1917 in an estimated depth of 50-60 fathoms (~91-110 metres).

### 7.6 First diving inspection by The Sydney Project technical divers – 8-9 Nov 2003

The Cumberland site was independently inspected by a group of technical divers in 2003 – named The Sydney Project.
Initial dives to the 96-metre deep (315-foot) wreck were undertaken using Tri-mix open circuit or "Inspiration" rebreather closed circuit systems. These were the first 'free' dives to the wreck.

The dive team identified the cargo of livestock meat from the numerous bones scattered about the staggering wreck site, located remnant metal ingots from the 1951-52 salvage operations, and confirmed the site as the *Cumberland* with the discovery of letters “U”, “M” and “E” on a section of plating at the bow.

The site was found to stand up to 14 metres above the seabed and was cavernous in its scale. The bow section consisted of a confusing mass of plating and miscellaneous material, and appeared to have collapsed to one side. Many dives will be required to cover the entire extent of the wreck.
7.7 Previous Research

It is perhaps surprising that one of the largest Historic Shipwrecks in New South Wales with its connections to a significant wartime action during the Great War is not better known. This lack of knowledge is partly due to wartime restrictions on the reporting of merchant vessel losses during World War One, and due to the depth of the shipwreck site, far beyond standard recreational diving limits.

The site was well known to the NSW Heritage Office, through research undertaken by its Underwater Heritage Program staff. This research was compiled during the development of its NSW Historic Shipwrecks Database that lists some 2000 known shipping losses in NSW's waters and inland areas. The Heritage Office had also been in touch with local Eden-based commercial fishermen who told of the location of a large wreck some four (4) miles off Greencape and believed to be Cumberland (1989 onwards). It was contacted directly by staff of CSIRO’s Hobart Office following the accidental imaging of a large shipwreck site in the same general area in 2000. At that time, staff Maritime Archaeologist Tim Smith confirmed that the wreck matched Cumberland's size and general location of loss.

Following research led to the identification of one of the original 1951-2 salvage team members engaged in recovering metal ingots from the site. Subsequent interviews with then deck-hand, Mr Alan Martin, led to the documentation of these activities and the documentation of an important photographic archive detailing these operations.

The Heritage Office compiled additional information on Cumberland’s loss and 1951 salvage in 2003 and added to the online Maritime Heritage Online web site <http:maritime.heritage.nsw.gov.au>. An Information Sheet featuring the Cumberland story and The Sydney Project survey work was added to the site that year, and incorporated into the Newsletter of the Heritage Council of New South Wales, Heritage NSW (Summer 2003 edition). A paper of the deep wreck survey work was also presented at the annual Australasian Institute for Maritime Archaeology (AIMA) international conference, held in Port Arthur, Tasmania, in November 2003. The Heritage Office also assisted in the public acknowledgment of the The Sydney Project work, through a Media release issued by the Minister responsible for heritage matters, The Hon Diane Beamer, at that time.

The Office had been building up to this work with the examination of three other vessels wrecked in NSW and built by the same Aberdeen shipwright's yard as Centurion: Fame, Queen of Nations and Walter Hood. These studies were completed in 1991.

8 CURRENT FIELDWORK RESULTS

8.1 Location

The wreck site is located in 96 metres of water at GPS position:

(estimated shipwreck centre point) ~37.3309 S 150.0942 E using differential GPS and the WGS84 coordinate system (provided by CSIRO).

The exposed portion of the wreck site extends for approximately 150 metres, with a width of 30 metres, standing to a height estimated to be fourteen (14) metres of the seabed. The
area is marked by a sandy/silty bottom, within an area of low limestone reef elements (Howe Reef).

8.2 Environmental context
The *Cumberland* wreck site was detected in 2000 by CSIRO Marine Research and National Oceans Office during a research project for seabed habitat mapping off the Green Cape, NSW. Following more detailed processing of research data in 2001 the wreck was clearly delineated in associated sun illuminated bathymetry maps and backscatter images (Appendix A). In addition to the mapping, detailed information on the seabed structure and biota relationships of the area was also provided by CSIRO Marine Research.

The bottom topography in this region is composed of silty/sand deposits on a low relief limestone reef. Survey operations to date indicate the wreck structure appears relatively well-exposed above the sand level. Evidence of the salvage operations and previous cargo, for example, is still visible scattered around the wreck. This indicates slow sedimentation/sand movement at the wreck site since the last known disturbance in 1953.

8.3 Discussion of survey results
The Archaeological footprint - a chameleon?
At this stage of archaeological investigations, it is difficult to ascertain if the *Cumberland* is a chameleon. Results of the non-disturbance archaeological survey to date imply a slow movement of sand, as outlined above. Sand settlement also appears slow considering the site was violently disturbed by the use of explosives c.50 years ago. The size of the *Cumberland* wreck, c.14m in height from the seabed, implies it is unlikely the main body would ever be entirely covered by natural processes.

Nonetheless currents are known to effect seabed deposits at depths of 100m. Although, this may not affect the larger structural remains, artefacts and associated material in the environs could be impacted by sand mobility over time. A visit after storm and sea activity can expose ‘new’ sections of the structure, or alternatively, bury previously identified features of the site. Further monitoring of the site would be required to thoroughly examine the archaeological footprint of the *Cumberland*.

How much of *Cumberland* is left?
Data from CSIRO Marine Research indicate that the wreck covers an area approximately 155 metres long by 30 metres wide. The vessel when lost was recorded as 144 metres long and 18.3 metres wide. Exact dimensions of the exposed wreck structure were difficult to ascertain during the 2003 survey work due to short bottom times, poor illumination and the complexity and size of the entire wreck site.

As detailed above, the extents of the wreck and observations of the divers have resulted in a mud sketch of the site. In particular, the latter has provided detailed information on aspects of the ship’s design. Key elements include the following:

- Orientation of the wreck site has been determined.
- The stern was identified, including part of the collapsed stern structure. The top of the stern measured 17 metres above the sand. It then sloped slightly downwards to the bow to the point that the deck of the stern at the hold “drop-off” was 15m above the sand. An exposed large propeller remained *in situ*.
- Other features of note on the stern including remnant railing on the starboard side and a door, measuring 2m high x 1m wide x 1m in length, on the port.
The bow was identified and orientated as leaning strongly to port. In fact the whole starboard side plating had leant over towards the sand. The tip of the bow was 4-5 meters above the seabed. Here the letter “U”, “M” and “E” were positioned in a slight depression amidst the bow plating.

Part of the deck remained behind the bridge. It ended abruptly with a shear drop-off into the hold region. It measured 14 metres above the sand. The bridge itself had collapsed and was flattened onto the deck level.

The level below the main deck had remains of refrigeration pipes.

Ship holds were also identified, only one hold in the bow and one in the stern were salvaged.

Broken mast sections were recorded near the collapsed bow and forward hold.

A debris field to the side of the wreck indicated the results of previous salvage activity at the site.

Other artefactual evidence including animal bone, a metal ingot were located in the wreck’s environs.

A significant portion of the wreck still remains to be investigated in more detail.
9 ASSESSMENT OF SIGNIFICANCE

10 Introduction

Significance has been assessed in accordance with the nature and degree of significance of the site’s primary attributes. These include attributes related to historical, social, archaeological, scientific and interpretative significance.

10.2 Attributes of Significance

Cumberland (a): An item is important in the course, or pattern, of NSW’s cultural or natural history.

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<thead>
<tr>
<th>Include</th>
<th>Exclude</th>
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</thead>
<tbody>
<tr>
<td>X • shows evidence of a significant human activity</td>
<td>• has incidental or unsubstantiated connections with historically important activities or processes</td>
</tr>
<tr>
<td>X • is associated with a significant activity or historical phase</td>
<td>• provides evidence of activities or processes that are of dubious historical importance</td>
</tr>
<tr>
<td>• maintains or shows the continuity of a historical process or activity</td>
<td>• has been so altered that it can no longer provide evidence of a particular association</td>
</tr>
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</table>

Comment
- The Cumberland was the first shipping casualty of World War 1 lost in home waters. It demonstrates the risks faced by shipping during the war years. Damaged by German mines laid off the southeast NSW coast, the eventual sinking of the Cumberland brought the reality of the Great War to Australian shores.
- Later activity at the Cumberland site between the years of 1951 and 1953, demonstrates one of the most daring and well-executed salvage operations in Australian history.

Criterion (b): An item has strong or special association with the life or works of a person, or group of persons, of importance in NSW’s cultural or natural history.

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<thead>
<tr>
<th>Include</th>
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<tbody>
<tr>
<td>• shows evidence of a significant human occupation</td>
<td>• has incidental or unsubstantiated connections with historically important people or events</td>
</tr>
<tr>
<td>• is associated with a significant event, person, or group of persons</td>
<td>• provides evidence of people or events that are of dubious historical importance</td>
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<td></td>
<td>• has been so altered that it can no longer provide evidence of a particular association</td>
</tr>
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</table>

Comment
- The significance of the Cumberland under this criterion has yet to be established.
Criterion (c): An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW.

<table>
<thead>
<tr>
<th>Include</th>
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<tbody>
<tr>
<td>• shows or is associated with, creative or technical innovation or achievement</td>
<td>• is not a major work by an important designer or artist</td>
</tr>
<tr>
<td>• is the inspiration for a creative or technical innovation or achievement</td>
<td>• has lost its design or technical integrity</td>
</tr>
<tr>
<td>• is aesthetically distinctive</td>
<td>• its positive visual or sensory appeal or landmark and scenic qualities have been more than temporarily degraded</td>
</tr>
<tr>
<td>• has landmark qualities</td>
<td>• has only a loose association with a creative or technical achievement</td>
</tr>
<tr>
<td>• exemplifies a particular taste, style or technology</td>
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Comment
- The Cumberland wreck provides intact, physical evidence of the design and construction of an early 20th century international freighter.
- Later 1950s salvage works at the site indicate a level of technical achievement and technological innovation in the recovery of over 95% of the ships metal cargo.
- Pioneering submarine observation chamber diving technology or “bell” diving was utilised during salvage works. The site’s association to the development of the industrial-era of deep-sea diving equipment is also of significance.

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

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<tbody>
<tr>
<td>• Is important for its associations with an identifiable group</td>
<td>• is only important to the community for amenity reasons</td>
</tr>
<tr>
<td>• is important to a community’s sense of place</td>
<td>• is retained only in preference to a proposed alternative</td>
</tr>
</tbody>
</table>

Comment
- The significance of the Cumberland under this criterion has yet to be established.

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

<table>
<thead>
<tr>
<th>Include</th>
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<tbody>
<tr>
<td>• has the potential to yield new or further substantial scientific and/or archaeological information</td>
<td>• the knowledge gained would be irrelevant to research on science, human history or culture</td>
</tr>
<tr>
<td>• is an important benchmark or reference site or type</td>
<td>• has little archaeological or research potential</td>
</tr>
<tr>
<td>• provides evidence of past human cultures that is unavailable elsewhere</td>
<td>• only contains information that is readily available from another resource or archaeological sites</td>
</tr>
</tbody>
</table>

Comment
- The Cumberland site has the potential to yield considerable information from further documentary research and archaeological investigations. Further documentary research has the potential to uncover additional information on the Cumberland’s history.
prior to its sinking in 1917. Research on the later phase of activity at the wreck site has the potential to demonstrate the technological achievements of one the most successful salvage operations in Australian history.

- Further archaeological investigations have the potential to record considerable information on the site. The wreck site is complex and covers a large area. It contains intact structural elements of an early 20th century freighter with evidence of later salvage works undertaken in the 1950s. Associated artefacts are scattered in the wreck environs. The wreck site has yet to be archaeologically recorded in detail.

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

<table>
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<tbody>
<tr>
<td>• provides evidence of a defunct custom, way of life or process</td>
<td>• is not rare</td>
</tr>
<tr>
<td>• demonstrates a process, custom or other human activity that is in danger of being lost</td>
<td>• is numerous but under threat</td>
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<tr>
<td>• shows unusually accurate evidence of a significant human activity</td>
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<tr>
<td>X • is the only example of its type</td>
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<tr>
<td>X • demonstrates designs or techniques of exceptional interest</td>
<td></td>
</tr>
<tr>
<td>• shows rare evidence of a significant human activity important to a community</td>
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**Comment**

- *The Cumberland is the largest ship (144m) wrecked off the NSW coast. The scale and complexity of the wreck site adds to the uniqueness of the site.*
- *The Cumberland was the first shipping casualty of World War One to be lost in home waters.*
- *The associated salvage operation and the use of pioneering deep-sea diving equipment also adds to the rarity of the site.*

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

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<tbody>
<tr>
<td>• Is a fine example of its type</td>
<td>• is a poor example of its type</td>
</tr>
<tr>
<td>• has the principal characteristics of an important class or group of items</td>
<td>• does not include or has lost the range of characteristics of a type</td>
</tr>
<tr>
<td>• has attributes typical of a particular way of life, philosophy, custom, significant process, design, technique or activity</td>
<td>• does not represent well the characteristics that make up a significant variation of a type</td>
</tr>
<tr>
<td>• is a significant variation to a class of items</td>
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</tr>
<tr>
<td>• is part of a group which collectively illustrates a representative type</td>
<td></td>
</tr>
<tr>
<td>• is outstanding because of its setting, condition or size</td>
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<tr>
<td>• is outstanding because of its integrity or the esteem in which it is held</td>
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**Comment**

- *The Cumberland retains structural elements of an early 20th century international freighter, which serviced wartime Australia. BUT ARE THESE REPRESENTATIVE*
10.3 Statement of Heritage Significance

The Cumberland site demonstrates the history of wartime shipping disasters in Australian waters. The Cumberland was the first WW1 casualty lost in home waters and the event brought the reality of the Great War to Australian shores. The wreck retains intact structural elements of an early 20th century international freighter.

Later activity on the wreck in the 1950s demonstrates one of the most daring and well-executed salvage operations in Australian history. The operation indicates a level of technical achievement and technological innovation in the recovery of over 95% of the ships metal cargo. The site’s association to the development of the industrial-era of deep-sea diving equipment is also of significance.

The Cumberland wreck site is now a rare example of its kind. It was the first ship sank in Australian waters in WW1 and remains the largest ship wreck of the NSW coast. Its scale and complexity adds to its rarity. Its association to a successful salvage operation which utilised pioneering deep-sea diving equipment also adds to the uniqueness the site. There remains the potential to gain considerable information from further documentary research and archaeological investigations of the Cumberland site.

11 MANAGEMENT OPPORTUNITIES – DISCUSSION

Non-disturbance archaeological survey work undertaken to date indicates there has been little disturbance to the Cumberland site since the 1950s salvage operations. Its depth and location has prevented recreational and/or commercial diving and has protected the remains from overhead boat traffic and/or mooring activity.

The greatest possible threat to the wreck is indicated from CSIRO Marine Research. CSIRO research in the vicinity of the Cumberland indicates the area supports a rich marine life. During a survey of the area a large school of fish was recorded around the wreck site. CSIRO concluded that “the ability of the wreck to aggregate fish could make it an interesting target for trap and dropline fishers and trawling closer to the exact site” (Appendix A).

One opportunity to limit possible damage to the wreck from trawling nets would be to deploy a permanent marker at the site (IS THIS A POSSIBILITY??). However if this is associated with significant constraints there is also an opportunity to make the exact location available to the broader maritime community encouraging the avoidance of the site.

Public access to the Cumberland wreck site is unlikely to be an issue. The wreck at a depth of c.95m is beyond the scope of both recreational and commercial diving.

Further liaising with the two technical diver groups that have already undertaken dives to the site is recommended. It is envisaged that the partnership between The Sydney Project and the MAAV in liaise with the Heritage Office will continue. This will promote the importance of the Cumberland as an archaeological site, and foster a higher level of interest in maintaining the site intact.

11.1 CONSERVATION

The Cumberland wreck site is not considered to be at a significant need of conservation assessment in the medium to long term. Most large timber shipwrecks reach a stable rate of natural deterioration in their contextual setting. This activity is a complex interactive
system that is impacted on by the type of seafloor sediments surrounding the site, microbial activity, the amount of natural sand cover, action of waves and swell, water temperature, salinity, dissolved Oxygen content, pH, effects of scouring patterns, and marine growth coverage, etc.

Left alone, Historic Shipwrecks naturally breakdown over centuries in a normal pattern of reduction. This process involves the slow deterioration of physical elements of the site and is part of the archaeological formation process. It does not necessarily require human intervention to arrest.

The most significant threat to Historic Shipwrecks derives from gross human interaction that acts to destabilise either the seabed surrounding the site (eg through development projects such as dredging, cable and trenching), removal of the protective marine growth covering a site (eg via anchor dragging damage, ‘cleaning’ of relics for observation, or through the removal of relics), and thus impacting on active corrosion/biological rates, and subsequent reduction of the archaeological potential of the site.

The Heritage Office promotes sound interacting with complex underwater heritage sites, by treating them as ‘*museums beneath the sea*’. All visitation should aim to promote the qualities of the site, by employing sound anchoring protocols and careful, safe, non-disturbance diving practices. No relics can be removed from the site except in accordance with the conditions of a NSW Heritage Council excavation permit. Divers should be encouraged to avoid damage to or disturbance of the protective marine growth coverings on the wreck site.

### 11.2 DISPLAY AND PUBLIC ACCESS

The *Heritage Act* 1977 provides public access to underwater cultural heritage sites as long as the visitor does not disturb the heritage remains. Promotion of our heritage through education is our strategic aim. In this regard the Heritage Office has been proactive with the development of an Award-Winning *Maritime Heritage Online* web site <http://maritime.heritage.nsw.gov.au>, which incorporates the official NSW Historic Shipwrecks Database.

The Heritage Office organises *Introduction to Maritime Archaeology Training Courses* in conjunctions with the Australasian Institute for Maritime Archaeology (AIMA) and the Nautical Archaeology Society (NAS) in the UK. These courses are open to divers and the general public, and have produced a range of publications, brochures and educational materials aimed at encouraging sound management of underwater cultural heritage, and enjoyment of the resource.

The *Cumberland* features on the *Maritime Heritage Online* web site which contains historic information on the loss and details of the current survey, historic and current photographs of the site, and video footage of the archaeological diving activities. The inspection work has also featured in the Office’s official newsletter, *Heritage NSW (Summer 2003)*. This report is also provided for visitors to the web site.

**Information Sheet**

The Heritage Office has produced an *Information Sheet* featuring the *Cumberland* as part of its annual series *(attached)*. These are available to download and photocopy from the web site, and are aimed at dive shops, libraries, councils and any visitor to the site.
Other Publications

TV Documentaries
The survey of the site by The Sydney Project in liaison with the Heritage Office was featured in a short TV segment aired on Channel 10’s Totally Wild kids information program on 17th February 2004. This medium provides an effective way to promote the existence of rare, fragile archaeological wreck sites in NSW’s waters, and the fascinating stories and information that they contain. Future opportunities to interpret the Cumberland wreck site through such programs should be promoted.

11.3 MANAGEMENT RECOMMENDATIONS

1. copies of this report be placed in the Heritage Office Library and on the Maritime Heritage Online web site for ease of public access.

2. inclusion of Cumberland Shipwreck Information Sheet on the Maritime Heritage Online and Bega Valley Shire Council web sites

3. copies of this report be forwarded to key local and State government agencies with management responsibilities in the vicinity of the site, eg NSW Waterways Authority, NSW Fisheries, and interested parties including Bega Valley Shire Council.

4. NSW State Fisheries be provided with a copy of the report and be requested to advise all members of the location of the wreck site to ensure no accidental fouling of the site by fishing operations.

5. interpretative opportunities be explored to promote the existence and values of the Cumberland wreck site. This could include

- a shore-based sign or plaque,
- information about the wreck is incorporated into ?? Shire Council information brochures and linked web sites
- inclusion of the site in future electronic and print media projects

5. encouragement of ongoing non-disturbance mapping of the site through a partnership between The Sydney Project and MAAV in liaison with the Heritage Office.

6. ongoing monitoring of the site by the above

7. Local historical societies, organisations and individuals be encouraged, where possible, to further research the background of the Cumberland wreck site, and others thought to exist in the general region.
8. addition of site survey results to NSW Waterways Authority Section 170 Heritage and Conservation Register (under NSW Heritage Act 1977)

9. publication of the findings of this report in an appropriate academic journal

12 CONCLUSIONS – further research

This report details recent site survey operations at the Cumberland wreck site. It does not aim to provide a comprehensive summary of the historical associations of the vessel. The Heritage Office is aware that additional archival materials could be accessed for the site, particularly details of individual voyages as reported in contemporary newspapers. A systematic search of these sources would provide additional information on the day to day activities of the vessel and particulars of cargoes, trades and transformation over time of an international freighter.

The present study of the Cumberland wreck site has demonstrated considerable scope for further and ongoing study on numerous aspects of the site. More archaeological detailed recording of the entire site is required. It is envisaged that this will be undertaken and facilitated through a partnership between The Sydney Project and MAAV, in liaison with the Heritage Office.

Further documentary research on the Cumberland is also required. To date there is limited information on the ship’s history- photographs, engineering plans etc- prior to its sinking in 1917. More research could also be undertaken on the 1950s salvage operations.

Apart from the main wreck, the Cumberland site is known to contain relics associated with the operations of the vessel (eg metal ingot), cargo and other items associated with salvage operations. It is also presumed that small relics lie buried within the confines of the ship, despite disturbance of the site in the 1950s. These items hold particular value. They document life on board an international freighter in wartime and the later activities of a successful, well-executed salvage operation. However, due to the massive costs associated with archaeological recovery, interpretation, conservation, display and ongoing storage of collections, no current archaeological excavation of the site is planned.

Such activity would require the prior approval of the Heritage Council of New South Wales through the granting of an Excavation Permit under the Act. Such approvals would require an approved archaeological research design justifying the reasons for disturbance to the site, an approved excavation and conservation methodology, and sound financial and professional support.
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CSIRO INSPECTION REPORT 2001

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CSIRO Marine Research
Australia
Email: rudy.kloser@csiro.au
Date: 10/12/01

Mapping using the Simrad EM1002

In April 2000 CSIRO Marine Research and the National Oceans Office carried out a collaborative research project for seabed habitat mapping off the coast of Green Cape using a Simrad EM1002 swath mapping echo sounder aboard the RV Southern Surveyor, Kloser et al. 2001. The Simrad EM1002 is a 95 kHz beam forming swath mapper with 111 received beams of approximately 2 degree resolution and electronically controlled for roll stabilisation. The swath mapper was operated in an equidistant mode to give even sampling of depth at the beam centres across the seafloor with a swath width of 120 - 140 degrees and pulse length of 0.2 ms. The beams were corrected for speed of sound and absorption losses using temperature and salinity casts in the region. Surveying in 100 m depth at 120 degrees swath width, 2 pings per second and at 10 knots the beam pointing centres are spaced 3.6 m apart athwart ship and 2.5 m along ship. This represents the effective horizontal resolution of the system with the depth resolution variable but usually precise to +/- 0.2 m locally around any given feature.

The shipwreck was mapped as part of normal operations on the 12th April 2000 at 01:33 hrs GMT. But due to poor processing capabilities on the vessel the shipwreck was not an obvious feature of the 30 m grid maps produced. With enhanced post processing software and computing 5 m grid maps were produced in July 2001 and the appearance of a wreck clearly shown in the associated sun illuminated bathymetry maps. Sun illuminated bathymetry is a method of highlighting small depth changes by creating shadows, Fig. 1.

The estimated shipwreck centre point is –37.3309 150.0942 using differential GPS and the WGS84 coordinate system. The size of the wreck on the images is approximately 155 m long and 30 m wide. The shipwreck also appears in the backscatter images of the swath mapper where the denser material of the wreck shows as a darker feature, Fig. 2. The backscatter images produced from swath mappers are generally of lower resolution and poorer aspect ratios of conventional sidescan instruments due to their vessel mounted configuration and wider beams.

Information supplied by Tim Smith from the NSW Heritage Office shows that the Cumberland sank in WWI, 5 nautical miles SE of Green Cape whilst under tow (stern first) on route to Sydney. The 144.4 m long, 18.3 m beam steel vessel was reported to have struck a mine in July 1917 then grounded on Gabo Island for repairs. Her cargo comprised mainly of frozen meat, metal ingots and associated supplies. The estimated location of the Cumberland is shown to be –37.337 150.108 on the Shipwreck Atlas of New South Wales.

The proximity (1.4 km NW) of the observed wreck to the estimated location of the Cumberland and its size make me believe that the wreck we have mapped is indeed that of the Cumberland. Only one other vessel of a similar size, the Recina, sunk after being
torpedoed by a submarine in WWII, has been reported on that section of coast. The *Recina* was last reported to be 32 km north of Cape Howe, which would place it well north of the current site.

The *Cumberland* rests on the seabed in 94 m of water and rises in height by up to 14m with a surrounding seabed dominated by silty sand on the edge of a complex limestone reef (Howe Reef). The detailed bathymetry of the swath mapper shows extensive current scouring around the vessel, Fig. 3. Our scientific Simrad EK500 normal incidence echo sounder operating at the time shows a large school of fish around the wreck site, Fig. 4. The ability of the wreck to aggregate fish could make it an interesting target for trap and dropline fishers, and trawling closer to the exact site. However, an accurate knowledge of the wreck's location will also reduce the risk of accidental entanglement of fishing gear.
Figure 1. An image of the shipwreck on the seafloor, sun illuminated (south) bathymetric data, 5 m grid.

Figure 2. An image of the shipwreck on the seafloor based on the sidescan reflectivity, 3 m grid.
Figure 3. Scouring of sediments around the shipwreck
Figure 4. Image from the 38 kHz normal incident Simrad EK500 Echo sounder with a 7 degree beam.

- Wreck on seafloor just seen on outer edge of beam
- Fish school around wreck
- Small internal wave that may be due to current movement around the wreck
- Wreck on seafloor just seen on outer edge of beam
APPENDIX 2: Report by The Sydney Project posted on DIVEOZ web site.

SS Cumberland was a steel twin screw steamship of 8993 gross tons and 144.4 metres in length (474 feet). Built by Hamilton & Co. at Glasgow, Scotland, in 1915, the vessel was registered in London with Official No. 139102. With four masts and owned by the Federal Steam Navigation Company Ltd., SS Cumberland was powered by four steam turbines.

The steamer had picked up cargo in Townsville, visited Sydney and was heading down the east coast for a voyage to the United Kingdom carrying a cargo of frozen meat, wool and ore.

A terrific explosion occurred below the waterline as the steamer passed a few miles off Gabo Island on 6 July 1917. With water flooding into the forward section, SS Cumberland was run aground on Gabo Island for urgent repairs. The origin of the explosion was believed to have been caused by a torpedo attack or a bomb placed aboard. It is now generally considered that SS Cumberland struck a mine laid by the German raider Wolf that had been active in the area.

After five weeks of strenuous repair work by divers and a dedicated salvage team, the tugs James Patterson and Champion were in attendance when the steamer was towed back to Eden for further repairs. However a storm caused the temporary patches to break and the tugs had to run for safety. Two larger steamers, Merimbula and Bermagui, stood by to offer help. Merimbula urgently evacuated SS Cumberland’s crew when the steamer began to sink bow first –“described by onlookers as an awe-inspiring sight”. The SS Cumberland is Australia’s first casualty of war at sea.

CSIRO imaged a large wreck that matched SS Cumberland’s size and approximate position in 2000, and contacted Tim Smith from the NSW Heritage Office with this discovery. From all the records available to him pointed that this may indeed be the final resting place for the SS Cumberland.

Tim had known a member of the Sydney Project, Mark Spencer, through a previous expedition to the Australian submarine AE2 in Turkey, and proposed Sydney Project divers carry out a reconnaissance expedition to identify if this was indeed the final resting place of the SS Cumberland.

Phones ran hot that night as we exchanged ideas and excitement for having the opportunity to see this ship since it went down, a meeting was followed a week later. The only people to see the wreck was the salvage team recovering the cargo in 1951, the same salvage company to recover the gold of the Wreck RMS Niagara and then the same bell technology was used to recover the gold of the RMS Egypt.

We discussed our objectives for this expedition and what needed to be done to achieve them in the time frame we were facing. A mention of media showing interest in this expedition postponed the expedition to early November, but since we could not delay this any further it was not possible to arrange any media coverage in time for the expedition.

The home base for the expedition was the small coastal town Eden located near the NSW – Victoria border, eight hours driving from Sydney. The closest dive shop is located north of Eden in Merimbula, approximately 45 minutes on the highway. The shop has no gas mixing facilities available, so all the gas, compressor and the rest of the equipment needed to be brought with us. Another important piece of equipment which needed to be organized was a stable diving platform with ample space for eight divers with all their equipment. The
vessels chosen was a 12 metre Cougar Catamaran from Spirit of Eden. Dave also brought along a 5 metre RIB chase boat.

On the 25th of October 2003, David Apperley organised to travel to Eden and venture out with Greg Hodge and Mark Ryan from Melbourne to the site of the wreck and verify the GPS marks. Greg then compiled the information into a graphical representation of how the wreck lays on the bottom, and it was showing that the wreck may be lying on its side. The best indication for us that this is the SS Cumberland was to see if this wreck has 2 props, which would confirm this 100%.

A second meeting was followed to announce the team selected for this expedition, as we had limited space on boats and time was of essence. The team was split into two diving groups with buddy’s shooting video and others shooting stills. All deco back up equipment was re-checked, and extra shot lines were built.

The boat was loaded on Friday 7th November 2003, and after a final briefing meeting we all retired for some much needed rest. The next morning at 6.00 a.m we loaded the rest of the gear and departed the Warf. Once we arrived at the site, we sounded for the most obvious part of the wreck, and prepared shot line to be deployed including our Depth Accelerant in form of a one metre long railway track with fins welded to help the track fall vertically. With sea condition being calm and absolutely no current was a real bonus for this part of the coast, where such conditions may occur just once a year.

The team consisted of five divers on mixed closed circuit rebreathers (3 Inspirations, 1 MK15, and 1MK15.5), the other three divers on open circuit. All backup gas was staged on shot lines, we decided to increase amount of back up gas, as most run times were in excess of three hours. Maximum depth found on site 97 metres. Back up deco gas staged was EAN 40 and 100% O2.

Once the deco station was deployed and support crew (David Apperley and Peter Szyszka) gave the all OK, bottom divers prepared to enter the water. Bottom divers were in 2 teams of three, first team consisted of Simon Mitchell (MK15.5), Paul Garske (Inspiration) and Samir Alhafith (Inspiration). The second team consisted of Jason Mc Hattan (MK15), Mark Spencer (Open circuit) and Kevin Okeby (Open circuit).

With 4 to 5 minutes to reach the bottom, the water was a refreshing 11C degrees on the bottom and visibility in the 10 to 15 meter range with very little ambient light. The Depth Accelerant was found to be sitting vertically with the fins pointing upwards, a most amusing sight showing how well it worked. The wreck is broken up significantly from the salvage operations and covered in healthy marine growth with blankets of fish. We agreed that Simon would run a line from the shot, and Paul will be looking for any parts of interest which will enable me to concentrate on shooting video.

Since there was no clear shape to tell us what direction is the bow or the stern, we guessed a direction and ended swimming into the bridge area. The area was every wreck divers dream, portholes, gauges, crockery and all types of brass fittings everywhere. Simon tied off the line to an open porthole, and we began to swim back to the shot line. Simon and Paul started their accent after 25 minute bottom time, while I had an extra 5 minutes to look around; I stayed close to the shot line and filmed anything that I thought would give a clue what this wreck was. I was very delighted to find bones, which tells us this is the frozen meat cargo that the SS Cumberland was carrying when she sank. Later Mark, Jason and Kevin found a copper ingot, which further indicated that this is was the SS Cumberland. A
long two and a half hours followed on deco with whale songs filling the boredom, and huge Jelly fish swimming around kept everyone on their toes. I was the last person to exit the water since I had the longest deco, then it was Dave’s and Peter’s turn to dive. Dave using an *Inspiration* rebreather and Peter diving open circuit. Dave was shooting video as they followed the line Simon had laid, and continued on a little further. They also confirmed seeing a copper ingot.

Once all the day’s diving was complete, we packed the deco station and released extra slack on the shot line in case the current picked up during the night. We steamed back to town and prepared the gear for next day’s diving, before hitting the local pub for some great meals and to watch the Rugby World Cup games. It was funny that the waitress led us to a table at the restaurant that had the picture of the SS *Cumberland* on the wall above it. It showed the ship sinking and of course we studied it well for features that might help us identify the wreck.

Next day departure was late due to extra filling we had to do for open circuit divers, and decided that we cut the bottom times to 20 minutes. Simon had a theory on which direction the bow might be in, and we decided to test this theory. Once again Simon laid new line and we followed swimming non stop, until we reached the winches and then the bow which had collapsed to it’s port side with three brass letters fallen into one pile: the U, M and E! We shook hands, filmed it on video and with big smiles upon our faces proceeded back to the shot line, and up to do our deco. Unfortunately Mark had a strobe implode and only one picture was developed from this dive.

Time was running out so Dave decided not to dive and we proceeded to remove the deco station as well as the shot line, all of us having achieved our goals for this expedition. Not only did we dive this wreck with extended bottom times, but also to positively idea the wreck as that of the SS *Cumberland*. There were no problems of any kinds with equipment and the entire operation went smoothly with only four weeks to prepare after receiving the information on this wreck.

Local police gave us a visit they were excited by our achievement, and said they will be informing all the trawlers in the area to insure that no artifacts removed from this wreck by divers in the future.

The NSW Government’s Heritage Office was informed of the results, and the Heritage Minister announced the news with a press release.

I would like to thank everyone involved for such a successful expedition, in particularly David Apperley, Paul Garske and Kevin Okeby for the extra efforts in organisation. Also huge thanks to Brett and Peter from Spirit of Eden Charters for their absolutely fantastic hospitality and seamanship. Last, but not least, Mark Spencer, Tim Smith and the rest of the team for making this happen.

The Sydney Project will continue to search and bring new wrecks to public attention, with Australian maritime history yet to be discovered. The search continues….

Samir Alhafith
Sydney Project Dive team
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