

MANAGEMENT PLAN FOR
THE HISTORIC SHIPWRECK
SS MACEDON
1870–1883

Report - Department of Maritime Archaeology
Western Australian Maritime Museum, No. 61.

Contents

PART 1. BACKGROUND	1
INTRODUCTION	1
Scope of the management plan	1
Legislation: <i>Historic Shipwrecks Act 1976</i>	1
Responsibilities of the Western Australian Museum	1
Responsibilities of archaeologists: legislative-ethical	1
Responsibilities of the public	1
PART 2. THE SS MACEDON	2
History of the vessel and its wrecking	2
Salvage	3
Archaeological field-work	4
Description of the wreck site	6
Present condition of the wreck	6
Conclusions	6
Artefacts: conservation-display	7
Documentation	7
PART 3. EVALUATION	8
ASSESSMENT OF CULTURAL SIGNIFICANCE	8
Historical significance	8
Technical significance	8
Social significance	8
Archaeological significance	8
Scientific significance	8
Educational and recreational significance	9
DEGREE OF SIGNIFICANCE	9
Rare	9
Representative	9
STATEMENT OF SIGNIFICANCE	9
CONSTRAINTS	9
Environmental constraints	9
Significance constraints	9
Legal, statutory and regulatory constraints	10
Environmental threats	10
Human threats	10
RESEARCH POTENTIAL	11
PART 4. MANAGEMENT STRATEGIES	12
MANAGEMENT POLICY STATEMENT	12
OBJECTIVES	12
POLICY IMPLEMENTATION	12
Enforcement of Regulations	12
Site surveillance	13
Wreck inspection	13
Site conservation	13
Collection management	13
Document management	13
Publication	13

Education and interpretation programmes for the community	14
Public access	14
Resources and funding	14
Review process	15
RECOMMENDATIONS	15
REFERENCES	16
APPENDICES	17
APPENDIX A. SUMMARY OF <i>MACEDON</i> ARTEFACT COLLECTION	17
APPENDIX B. SUMMARY OF <i>MACEDON</i> PHOTOGRAPHIC COLLECTION	17
APPENDIX C. PUBLICATIONS	17
APPENDIX D. UNPUBLISHED DOCUMENTS	18
APPENDIX E. ARCHIVAL DOCUMENTS	18
APPENDIX F. Rottnest Wreck Trail pamphlet, (Enclosed).	18
ACKNOWLEDGMENTS	19

Figures

Figure 1. A contemporary sketch of the <i>Macedon</i>	2
Figure 2. Diving helmet recovered from the vicinity of the <i>Macedon</i> wreck site	3
Figure 3. Boiler showing area damaged by the hull scrubber	4
Figure 4. Isometric drawing of the <i>Macedon</i> wreck site	5
Figure 5. <i>Macedon</i> wreck site	6
Figure 6. SS <i>Macedon</i> information plaque	14

Maps

Map 1. Wreck locality	5
Map 2. Marine Conservation Zone	10
Map 3. Rottnest Island courtesy mooring	15

PREAMBLE

This document is one of 75 proposed management plans for shipwrecks along the Western Australian coast that are protected under the *Commonwealth Historic Shipwrecks Act 1976*.

The document deals only with the wreck of the SS *Macedon*, which was gazetted an historic wreck in 1977. Its remains lay off Rottnest Island, 20 km to the west of Fremantle.

The development of this plan is based upon the National Historic Shipwrecks Program's *Statement of principles for the management of shipwreck sites*, and the criteria outlined in the *Guidelines for management of Australia's historic shipwrecks*, published by the Department of the Arts, Sport, the Environment and Territories, (DASET).

The plan was prepared by the Western Australian Maritime Museum, Fremantle, with the approval and financial support of the Department of the Arts and Administrative Services, (DAS), formerly known as DASET.

SUMMARY

The purpose of the management plan is twofold. Firstly to assess and describe the heritage significance of the historic shipwreck, SS *Macedon*. Secondly, to provide appropriate strategies for the management of the wreck site and its associated artefacts.

This document is divided into four parts. Part 1 outlines the scope of the *Historic Shipwrecks Act 1976* and the responsibilities of instrumentalities and individuals in the administration of the Act.

Part 2 places the *Macedon* in its historical context with a brief history of the vessel and the wrecking event. A description of the wreck site and a summary of the archaeological work carried out provides the reader with an overview of the present status of the wreck. The information outlined in Part 2 provides the basis for the assessment of cultural significance in Part 3. A Statement of Significance is derived from the assessment process. The plan highlights various constraints, possible threats and research opportunities which may affect the archaeological and structural integrity of the wreck. Part 4 provides a general statement of management policy and detailed recommendations for implementation of the policy.

PART 1. BACKGROUND

INTRODUCTION

This document is a plan of management for the historic shipwreck *SS Macedon*.

Scope of the management plan

The scope of this management plan encompasses the wreck site, artefact collections and records relating to the *SS Macedon*.

Legislation: *Historic Shipwrecks Act 1976*

In 1977 the remains of the vessel and all relics associated with it came under the protection of the Commonwealth *Historic Shipwreck Act 1976*. Responsibility for the administration of the Act is vested in the Department of the Arts and Administrative Services (DAS), however, under the provisions of the Act, the Minister has delegated the responsibility for managing the site and its associated materials to the Western Australian Museum, which has further delegated responsibility for the practical management of the site to the WA Maritime Museum.

Responsibilities of the Western Australian Museum

The Museum is responsible for the preservation and interpretation of the site, (site management), the conservation, documentation, storage and display of artefacts (collection management) and the documentation of all activities associated with the site, (document management).

Responsibilities of archaeologists: legislative—ethical

As custodians of the shipwreck and associated artefacts, archaeologists must comply with requirements of the *Historic Shipwrecks Act 1976*, the *Protection of Movable Cultural Heritage Act 1986* and the *Museum Act 1969*.

They are required to adhere to the standards of relevant professional bodies such as: the International Code of Ethics for Museums (ICOM), the Australian Institute for Maritime Archaeology (AIMA), and the Australian Institute for Conservation of Cultural Materials (AICCM), and be guided by: AIMA *Code of ethics*; Australia ICOMOS, *Charter for the conservation of places of cultural significance (Burra Charter)*; ICOM, *Code of ethics for museums* and AICCM *Code of ethics and guidance for conservation practice*; UNESCO, *Ownership of cultural property*; and *Convention on the means of prohibiting and preventing illicit import, export and transfer of ownership of cultural property*.

Responsibilities of the public

Members of the public may not disturb or remove or destroy material from any wreck site that is protected under the Act.

Persons finding a shipwreck or any items associated with a shipwreck are required to report their findings to the Commonwealth Minister of the Arts and Administrative Services. Notification of a discovery in waters off the coast of Western Australia may be made to the Director of the Western Australian Museum.

PART 2. THE SS *MACEDON*

History of the vessel and its wrecking

The British built SS *Macedon* was launched in 1870 and immediately sailed to Victoria to begin a career as a general cargo vessel for shipping owner, W. Howard Smith. Smith named his new single screw steamer after Mt Macedon, a prominent landmark on the Mornington Peninsula, Victoria.

In the following year the *Macedon* was engaged in a dramatic sea rescue, plucking the passengers and crew from the SS *Auckland*, which had run aground near Cape Everarde, Victoria on the night of 25 May 1871.

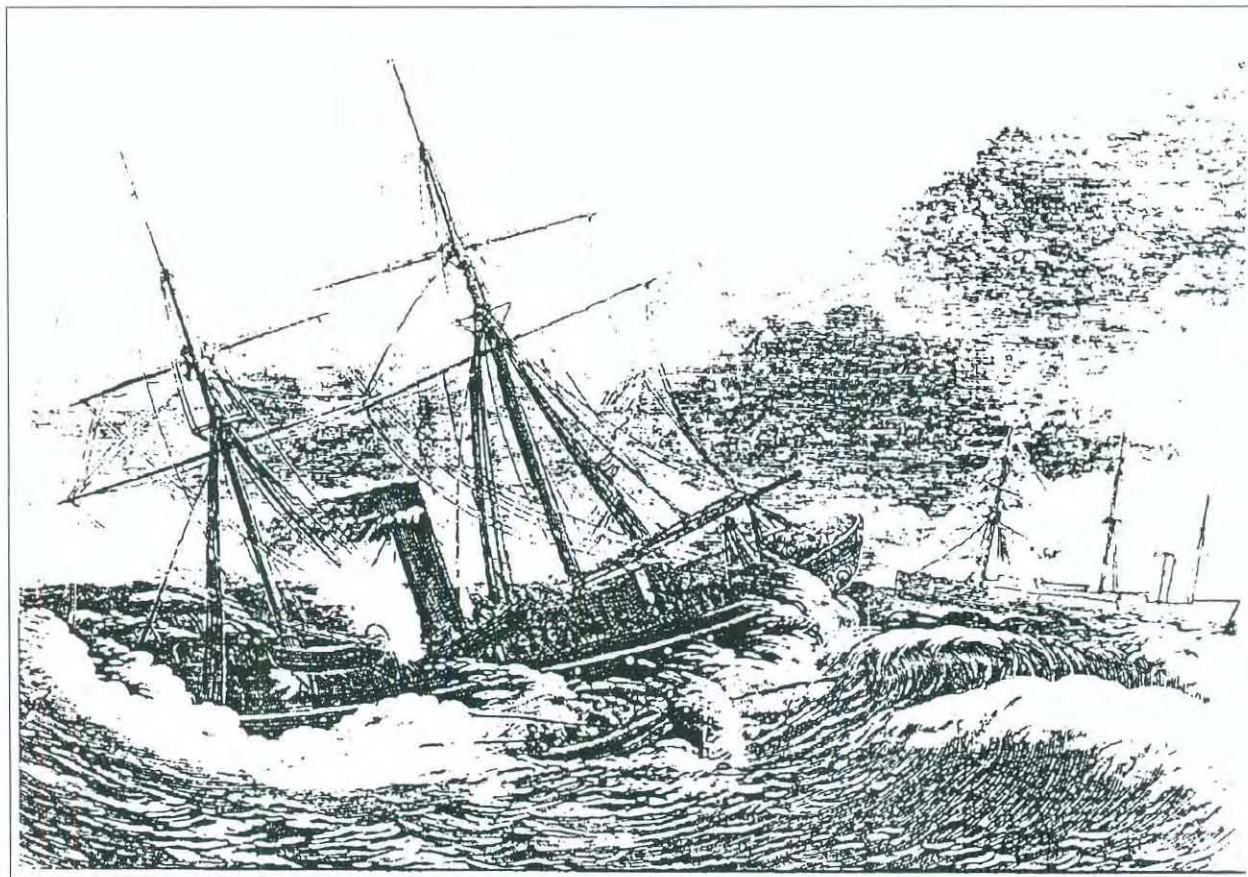


Figure 1. A contemporary sketch of the *Macedon*'s rescue of the passengers and crew from the SS *Auckland*, May 1871 (Source: Loney, J., *Australian Shipwrecks Vol. 3: 1871 to 1900*. Plate ii. *Illustrated Sydney News*, 12/6/1871. In the National Library of Australia).

For ten years the steamer serviced ports along the eastern seaboard until it was purchased by the Western Australian shipping company, James Lilly and Co. and made its first voyage to Western Australian ports in October 1881. The vessel plied between Melbourne and Fremantle until January 1873 when Lilly and Co. won a government contract to deliver mails to ports in the far North-West of Western Australia.

On the afternoon of the 21 March 1883, the *Macedon* departed Fremantle on what was to be the inaugural steamer service to ports in the Kimberley district, under the command of Captain John Craig. On board were fifty passengers including a Kimberley survey party, led by Sir John Forrest, who was at that time, the Surveyor General and Commissioner of Crown Lands. The vessel was fully laden with government mails, bullion and 200 tons of general cargo as well as the equipment and fifty horses for the survey party. After delivering a party of officials and police to Rottnest Island, Captain Craig set the ship on a northerly course and within minutes struck Kingston Reefs.

The following day a flotilla of six lighters took off the mails, bullion and the survey party's horses and equipment. The passenger's luggage and ninety tons of cargo, was salvaged before the vessel started to sink.

Salvage

Lilly and Co. managed to salvage the anchor chains, sails and rigging before rough weather caused the vessel to break up.

Another salvage attempt made three months later ended in disaster when in June, Mr Henry Atwell bought the salvage rights for £170. With the aid of a professional diver and equipment borrowed from the Fremantle Harbour Master he began salvage operations but before anything of value was raised, the boat and all the diving equipment was lost in a storm and the two men were lucky not to have drowned.

Ninety-three years later, the diving helmet was recovered from the wreck site by the WA Maritime Museum and is now on display in the Rottnest Island Museum.



Figure 2. Diving helmet recovered from the vicinity of the *Macedon* wreck site, 13 June 1976 (Photo: Jeremy Green, WA Maritime Museum).

There has been a high incidence of illegal salvage from the site, particularly since the 1970s when SCUBA diving gained popularity as a recreational activity. Small objects such as bottles and clay pipes are the prime target of souvenir hunters, despite widespread awareness amongst the diving community of the historic status of the shipwreck.

In 1987 part of the wreck was damaged when a diving company used a section of the boiler to test the effectiveness of a 'hull scrubber', an underwater machine designed to remove marine growth and concretions from ships hulls. An area approximately two metres by one metre was scoured down to bare metal, leaving the exposed iron susceptible to an acceleration of the corrosion rate. (The build-up of corrosion products and marine growths acts as a barrier between the iron and the sea-water, thereby slowing down the normal rate of corrosion. Removal of the protective layer allows the chlorides in the sea-water to act upon the iron, increasing the rate of corrosion).

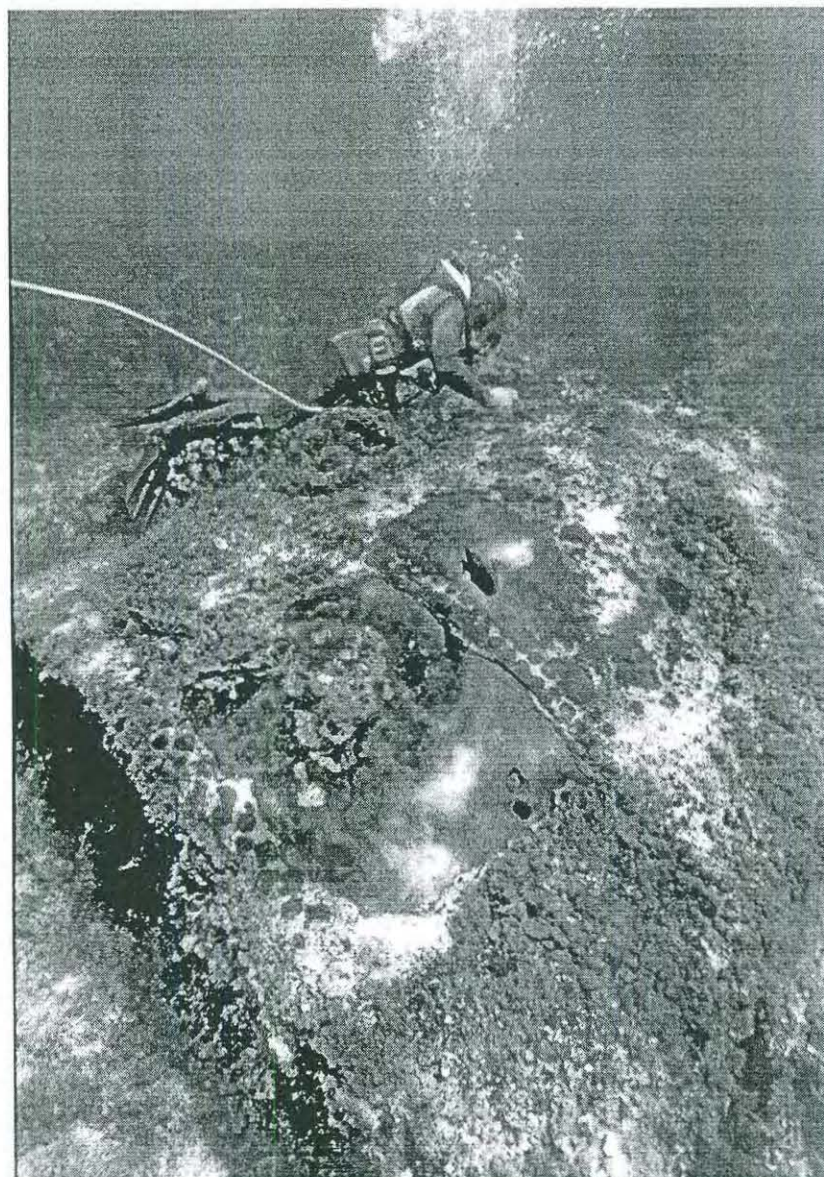


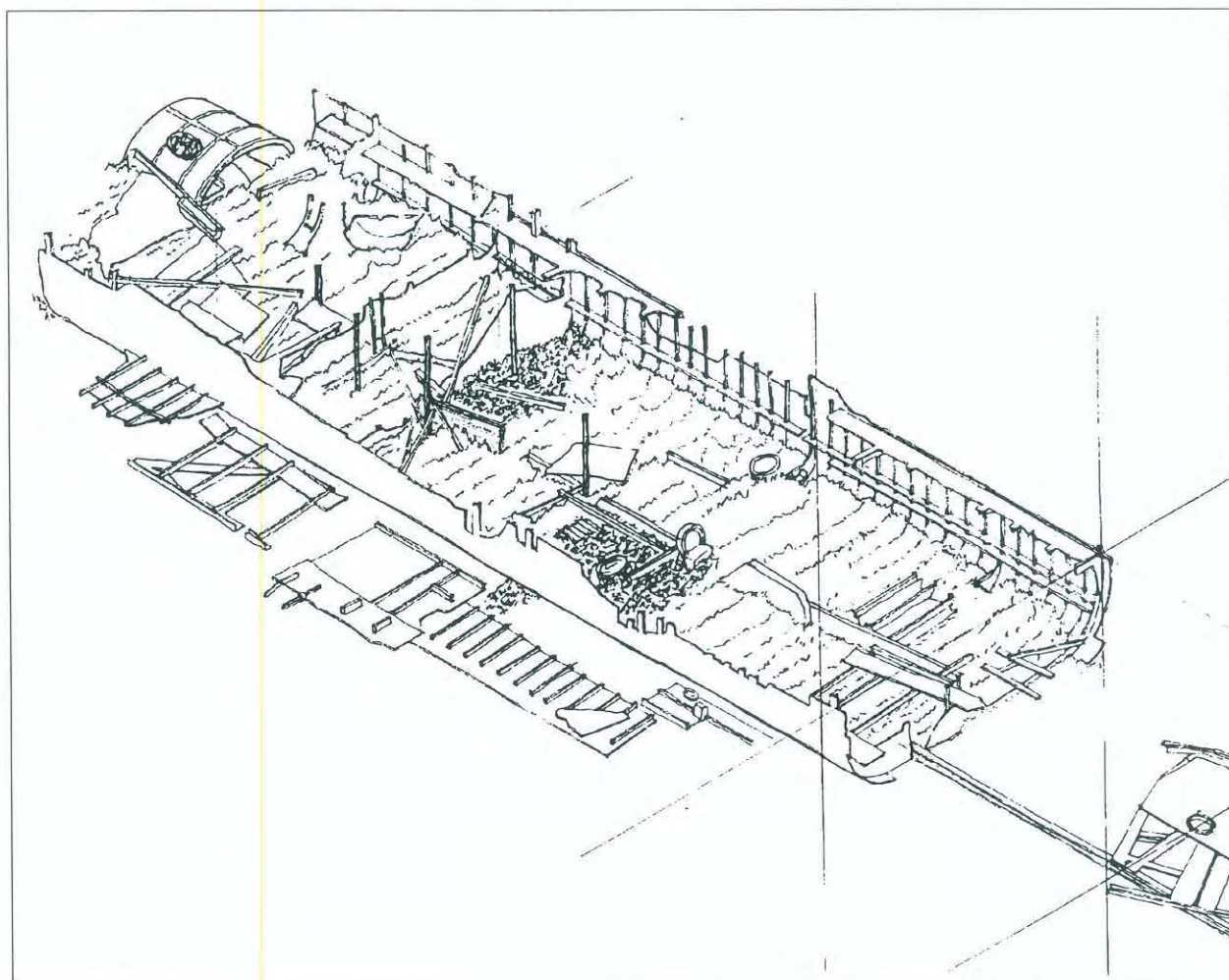
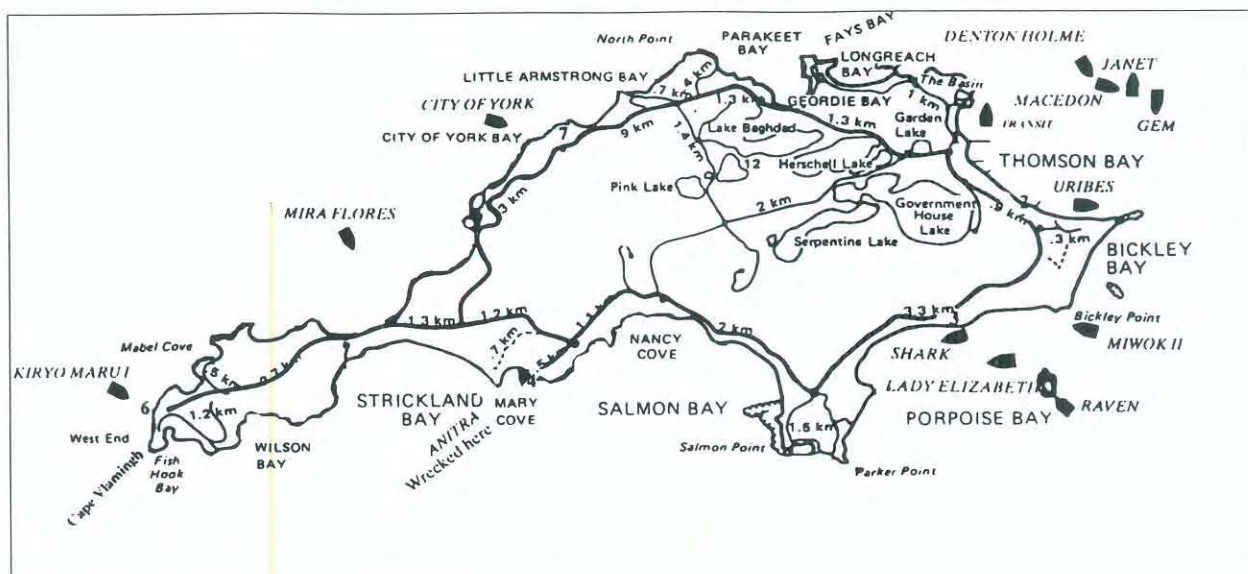
Figure 3. Boiler showing area damaged by the hull scrubber (Photo: Brian Richards, WA Maritime Museum. 13 Feb. 1987).

Archaeological field-work

The initial survey of the *Macedon* was carried out in 1971 prior to the application for proclamation. A further inspection of the site was made in 1976, during the recovery of the diving helmet. In December 1980, divers from the Maritime Archaeological Association of Western Australia, (MAAWA) reported seeing previously unexposed artefacts on the wreck site and evidence of scouring (due to storm wave activity). To prevent further damage and possible looting of the artefacts, Museum divers removed the exposed surface material. The items have been conserved and are presently in storage in the WA Maritime Museum.

In 1981, the Public Works Department of Western Australia conducted a detailed hydrographic survey of the wrecks around Rottnest Island. The latitude and longitude of the bow and stern of the *Macedon* (and other wrecks) has been plotted accurately to four decimal places.

An inspection of the site in 1985 revealed evidence of looting. In spite of some human interference, the wreck site environment has remained relatively stable, although the hull plates are deteriorating.



Description of the wreck site: environmental setting–present condition of the wreck

The wreck lies on Kingston Reefs with the bows to the east, approximately 1600 m [0.85 nautical miles] west-nor-west of Bathurst Point. The area is prone to strong surging swells, an environment conducive to active corrosion of iron. The depth of water over the site ranges from 3–6 metres. The hull is intact to the main deck line amidships, however the bow is canted over on the starboard side and the stern is completely broken up. A boiler is the most prominent feature, along with the portion of the ship's sides that have remained upright. Coal and the remains of a cargo of iron is scattered over the site. Small items such as clay pipes and fragments of bottles and ceramic can still be seen.

Present condition of the wreck

In December 1992 the wreck site was inspected by staff of the WA Maritime Museum. Electrochemical measurements of the iron remains indicate that the wreck is actively corroding. Some sections of the hull are completely corroded, with no parent metal remaining.



Figure 5. *Macedon wreck site (Photo: WA Maritime Museum).*

The condition of the wreck has deteriorated since the previous inspection in 1987. Two sections of deck beams that were intact at that time have since collapsed and several sections of hull plating have been dislodged. The boiler has no parent metal remaining and the area that had been damaged by the illegal use of a hull scrubbing machine is now completely covered with concretion and is indiscernible from the rest of the boiler (*Conservation Report*, 12 December 1992).

Conclusions

The structural integrity of the wreck is in jeopardy. As corrosion continues, the hull will become more susceptible to damage by both natural forces and recreational diving activities.

With the disintegration of the last remaining deck beams, there is little to prevent the sides of the hull from collapsing some time in the future. Unless the corrosion process is halted, or at least retarded, the wreck cannot be expected to retain its vertical structure.

Artefacts: conservation—display

The artefacts recovered from the site are generally representative of two categories of materials; cargo items and ship's fittings. Privately held items include a silver spur, belonging to John Forrest. Most of the material recovered from the *Macedon* has undergone any necessary conservation treatments and is presently either in storage or on display.

Part of the artefact collection is on loan to the Rottnest Island Museum. The ship's steam whistle and a bell are on display in the Fremantle Museum, while the remainder of the collection is in the custody of the WA Maritime Museum. The material on display in the Rottnest Island Museum is subject to annual review by WA Maritime Museum staff.

This involves an assessment of the condition of the artefacts, the condition of the display cases and the visual presentation of the collection. Artefacts requiring further conservation will be removed from Rottnest and transported to the Department of Materials Conservation, WA Maritime Museum for treatment. (A summary of the location of the artefact collection is given in Appendix A).

Documentation: archival documents—conservation reports—archaeological records—artefact registers—pictorial collections

Documents relating to the *Macedon* are housed in three locations. Original historical documents are located in the Battye Library (Western Australian History Library). Conservation reports for artefacts are maintained in the WA Museum's Department of Materials Conservation. The Department of Maritime Archaeology holds archaeological records, such as the artefacts registers, the pictorial collection and published and unpublished reports.

Bibliographic information of documents held at the WA Museum can be accessed via in-house computer databases. (Published, unpublished and archival documents are listed in Appendices C, D and E respectively).

The *Macedon* artefact collection has been assembled over a period of many years. As a result, items have been recorded in three successive registers. As a means of keeping all records together, a collection catalogue has been created on a database, indicating where each item is displayed or stored. (See Appendix A).

The pictorial collection is comprised of 100 colour transparencies of the wreck site and a further 24 transparencies of the recovery of the diving helmet. Included in the slide collection is three black and white reproductions, one of Mr. Henry Atwell and his wife and two of the vessel purported to be the *Macedon*. In addition there are 75 black and white photographs. The collection has been catalogued and is stored according to accepted archival standards at the WA Maritime Museum. (For a summary of the photographic collection, see Appendix B).

PART 3. EVALUATION

ASSESSMENT OF CULTURAL SIGNIFICANCE

This Management Plan is based upon an appreciation of the significance of the vessel in terms of its recreational/ educational, historical, social and scientific research value.

Historical significance: concerned with range of context

- Significant in the evolution and pattern of history;
- Importance in relation to a figure, event, phase or activity of historic influence.

The wrecking of the *Macedon* was a pivotal event in the history of Western Australian coastal shipping, signalling the end of the locally-based monopoly on WA coastal trade.

The vessel's owners, Lilly, Anderson and Marshall never fully recovered from the financial loss, leaving the way open for the Adelaide Steamship Company to take over the coastal commerce of almost half the continent.

Technical significance: concerned with technical or creative accomplishment

- Significant in possessing or contributing to technical or creative accomplishment.
- Importance in demonstrating a high degree of technical or creative achievement for the period in question.

The remains of the *Macedon* do not display a high degree of technical achievement.

Social significance: concerned with community regard or esteem

- Significant through contemporary associations with a community or communities in Australia for social, cultural or spiritual reasons.

The demise of Lilly and Co. was a great loss to the developing economy of Western Australia. Most local businesses in the State relied on the coastal shipping service as the link to their markets and ultimately, to the rest of the world. In the present day, the *Macedon* has significant social value for the diving and non-diving community alike as an accessible and tangible link with our maritime heritage.

Archaeological significance: concerned with research potential through investigation of material remains

- Significant for the potential to yield information contributing to an understanding of history, technological accomplishment and social developments.

Apart from its value as an ideal site for training students in underwater archaeological survey techniques, the *Macedon* does not possess great archaeological significance.

Scientific significance: concerned with research potential through repeatable measured tests

- Significant in the potential to yield information about the composition and history of cultural remains through the examination of physical and chemical processes.

Important in the generation or testing of hypotheses concerning the composition of cultural remains, the effects of original use and the effects of other environmental factors.

Valuable data can be gained from monitoring the corrosion rate of this, and other iron wrecks in Western Australian waters. The information will be incorporated into a national database for a comparative analysis of corrosion rates of iron wrecks throughout Australia. The ultimate objective is to develop a predictive model of the disintegration process of iron vessels that will allow archaeologists and conservators to estimate the life span of individual iron wrecks.

The *Macedon* has the potential to be an excellent wreck for testing the effectiveness of *in situ* cathodic protection.

Educational and recreational significance: concerned with public education values

- Significant for its potential to contribute towards public education.
- Importance for its potential for public education through on-site (or other) interpretation.

The *Macedon* wreck is one of the most popular recreational dive sites in Western Australia. At a depth of 3–6 m, it is an accessible and safe dive for skindivers and novice SCUBA divers, (providing the sea is reasonably calm), however a boat is necessary to reach the area.

The popularity of the site is enhanced by the close proximity of the *Denton Holme* wreck, giving divers the opportunity to explore two vessels in one dive. Dive school operators use the site as an introduction to wreck diving. The wreck's high rate of visitation provides a valuable opportunity to promote community awareness and appreciation of Australia's underwater cultural heritage.

The *Macedon* wreck site has valuable potential as a training environment for maritime archaeology students, particularly for developing surveying and mapping techniques.

DEGREE OF SIGNIFICANCE

- Rarity or representativeness on a national basis and/or a state basis.

Rare: concerned with the uncommon or exceptional

- Significant in possessing rare, endangered or uncommon aspects of history.
- Importance in demonstrating a distinctive way of life, custom, process, waterway use, function or design no longer practised, is in danger of being lost or is of exceptional interest to the community.

The *Macedon* is one of the few reasonably intact iron wrecks in local waters that is easily accessible and relatively safe for recreational diving.

Representative: concerned with the typical or characteristic

- Significant in demonstrating the characteristics of a class of cultural items.
- Importance in demonstrating the principal characteristics of the range of human activities (including the way of life, philosophy, custom, process, waterway use, function, design or technique).

The *Macedon* is representative of the transitional stage in shipbuilding between sail and steam. The wreck is representative of the fate of many vessels along the Western Australian coast at a time when navigation aids were often unreliable.

STATEMENT OF SIGNIFICANCE

The SS *Macedon* is of historical significance by virtue of the shipwrecks impact on the development of interstate maritime commercial interests in Western Australia. The wreck site has considerable potential for interpretation through public education programmes and has the potential to yield valuable scientific data regarding corrosion studies of iron wrecks.

CONSTRAINTS

In the formulation of a management plan, consideration must be given to certain environmental, administrative and legislative constraints.

Environmental constraints

The wreck is not accessible to divers in rough weather. In high seas a surf zone forms over the site. Even in moderate seas, it is prone to strong surges due to swell formation over the reef and care must be taken when diving in these conditions.

Significance constraints

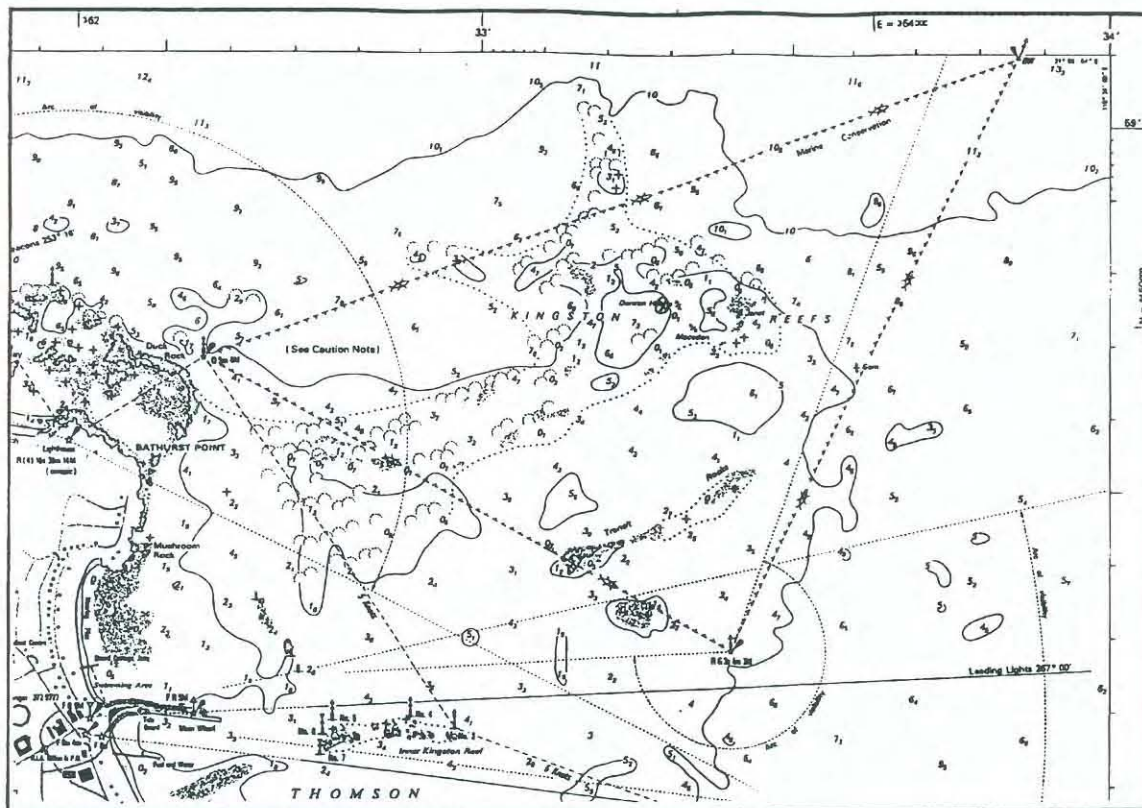
There is a precedence of importance in attributes of significance. In the case of the *Macedon*, the educational and recreational value has greater significance than the archaeological value.

Legal, statutory and regulatory constraints

There are no restrictions to public access to the site, however the *Historic Shipwrecks Act 1976* ensures the protection of the fabric of the wreck from undue human intervention.

Sections 13 and 15 stipulate that the wreck site must not be disturbed or material removed by any person without permission from the Minister responsible for the administration of the Act.

The marine fauna of the wreck site and the surrounding reefs is protected under State legislation. In May 1988 Kingston Reefs were scheduled as a Marine Conservation Zone under the *Western Australian Fisheries Act 1905*, Notice 301, Section 9 of the Act, states that no type of fishing activity is permitted in the designated area.



Map 2. Marine Conservation Zone, Kingston Reefs, showing the position of the *Macedon* and other Wreck Trail wreck sites.

Environmental threats

All wreck sites are prone to deterioration by physical forces, chemical corrosion and biological action. The dynamic nature of the site, the *Macedon* is subjected to a high level of mechanical force from wave action. The high oxygen content of the water provides an environment conducive to the active corrosion of metals.

Human threats

The protection of historic shipwrecks must be balanced against the requirement to increase community awareness and provide public access to the sites.

The promotion of the *Macedon* in the *Rottneest Wreck Heritage Trail* guide has resulted in an increase in the number of visitors to the wreck site. Some damage to the fabric of the wreck may occur from the inadvertent actions of recreational divers or from illegal activities such as vandalism or the pilfering of some artefacts. However, with the provision of the courtesy mooring and greater surveillance of the site, wreck damage will be substantially reduced.

RESEARCH POTENTIAL

A long-term conservation program will be established to monitor the corrosion rate of the wreck. Measurements will be taken annually and the resulting data will be used to determine the approximate 'life' of the iron remains in its present environment. This information will be co-related with data from other iron shipwrecks in Australian waters.

PART 4. MANAGEMENT STRATEGIES

MANAGEMENT POLICY STATEMENT

The policy is derived from the statutory requirements of the *Historic Shipwrecks Act 1976* and the Statement of Significance, with consideration given to the constraints outlined above.

OBJECTIVES

Preserve and protect the fabric of the wreck.

- The provisions of the *Historic Shipwrecks Act 1976* will continue to apply to the wreck site and the collections.
- The structural and archaeological integrity of the wreck will be preserved.
- The site will be reserved for passive recreation only.
- No archaeological or conservation procedures will be undertaken that could cause unnecessary disturbance or damage to the fabric of the wreck.
- Activities on the wreck site will be monitored.
- Wreck inspections will be carried out at regular intervals.

Conserve, curate and display artefacts associated with the wreck site.

- Material recovered from the *Macedon* wreck site or any associated land site will be in the custody of the Western Australian Museum.
- Artefacts will be conserved, curated and displayed according to professional standards.
- Members of the public in possession of *Macedon* relics will be encouraged to pass them on to the WA Museum so that the artefacts may be conserved and documented.

Generate, catalogue, store and disseminate documentation regarding the *Macedon*.

- All Maritime Museum activity associated with the site will be documented.
- The documents and pictorial records will be catalogued and stored in such a manner as to be accessible to bona fide researchers.
- The results of archaeological research will be published.
- Documents generated by the Museum will be subject to copyright.

Develop interpretation and education programmes for the community and facilitate public access to historic shipwrecks.

- Responsible community participation in the management process will be encouraged.
- Arrangements will be made for the promotion of public access and enjoyment of the site.
- Interpretive materials will be produced to:
 - (a) Enhance public awareness of the location of the wreck site.
 - (b) Emphasise the historic status of the site and the public's responsibility towards protected wreck sites.

POLICY IMPLEMENTATION

The success of the policy implementation is largely dependent upon the involvement of the Rottnest Island Authority and local interest groups in the management process.

Enforcement of Regulations

Section 22 of the *Historic Shipwrecks Act 1976* gives the Minister the authority to appoint suitable persons to be inspectors for the purpose of enforcing the provisions of the Act. It is proposed that officers of the WA Maritime Museum will be appointed as inspectors. At present, members of the Commonwealth and State police forces automatically have authority to act as inspectors.

Site surveillance

Surveillance of the wreck site is provided year round by the Rottnest Island Board's Marine Ranger. During the summer months, when diving activity increases, the site is visited daily by the operators of the glass-bottomed boat 'Underwater Explorer.' Any obvious disturbances to the site are reported to the Rottnest Island Authority Marine Ranger, who then informs the Maritime Museum.

Dive school operators are taking a more pro-active role in the protection of the Kingston Reefs wrecks as they begin to recognise wrecks as economic asset to their businesses.

Officers of Marine and Harbours, Fisheries and Wildlife and CALM are encouraged to consider the notion of monitoring activities in the vicinity of protected wreck sites.

Wreck inspection

With the approval of the WA Maritime Museum, members of MAAWA carry out annual non-disturbance inspections and report to the Museum where there is evidence of human interference or significant environmental damage to the site. The inspection is performed in conjunction with MAAWA's annual Rottnest Wreck Heritage Trail plaque cleaning exercise.

Due to its popularity with divers and the close proximity to Fremantle, the Maritime Museum will also make an annual inspection of the site.

Site conservation

The physical, chemical and biological environment of the site will be monitored. Measurements of sand movements, pH values, electrical conductivity, oxygen saturation, water temperature and marine organism concentrations will be recorded and analysed. Only data collection techniques that ensure the maximum information for the minimum disturbance will be employed.

In situ corrosion reversal techniques will be applied (if necessary), to preserve the anchors remaining on the site.

Collection management

The Museum will actively encourage the public to return relics removed from the site. Suitably worded notices will be placed in appropriate places, advising the public to the effect that:

- It is illegal to keep items from shipwrecks as 'souvenirs.'
- Material taken from shipwrecks will deteriorate and eventually be destroyed without proper conservation treatment.
- Artefacts can be returned to the Maritime Museum anonymously, without fear of prosecution.
- Recovered materials may go on display in the local region if a suitable display venue is available.
- The collection will be studied and interpreted and the findings published.

The condition and visual presentation of the artefacts on display at the WA Maritime Museum and at the Rottnest Museum will be reviewed regularly.

Document management

The Western Australian Maritime Museum will continue to ensure that all documents associated with the *Macedon* will be collated, stored and catalogued in such a manner as to be accessible to bona fide researchers and that the laws of copyright will be observed. Duplicates of photographs and transparencies from the photographic collection can be made available to other researchers.

Publication

The publication and dissemination of scholarly research relating to the *Macedon* will be encouraged. Popular articles will be published for the general interest of the wider community.

Education and interpretation programmes for the community: displays–wreck trail guide–information plaques–boat tours.

Interpretive presentations of artefacts recovered from the vessel are on display in the Rottnest Island Museum, the Fremantle Museum and the WA Maritime Museum.

Information about the *Macedon* is available in a publication produced by the WA Maritime Museum. The *Macedon* is one of 14 wrecks that have been included in *The Rottnest Wrecks Heritage Trail* guide. The pamphlet gives the reader a brief history of the vessel and includes the wreck site position in degrees of latitude and longitude. It is available to the public from appropriate venues such as the office of the Rottnest Island Authority, dive shops and the WA Maritime Museum. (A copy of the pamphlet is included as Appendix G). An interpretive plaque has been erected along the heritage walking trail at a point overlooking Kingston Reefs where the *Macedon*, *Denton Holme* and the *Janet* were lost. Underwater information plaques have been placed adjacent to each wreck site, providing divers with a brief summary of the circumstances surrounding the loss of the vessels.



Figure 6. SS *Macedon* information plaque.

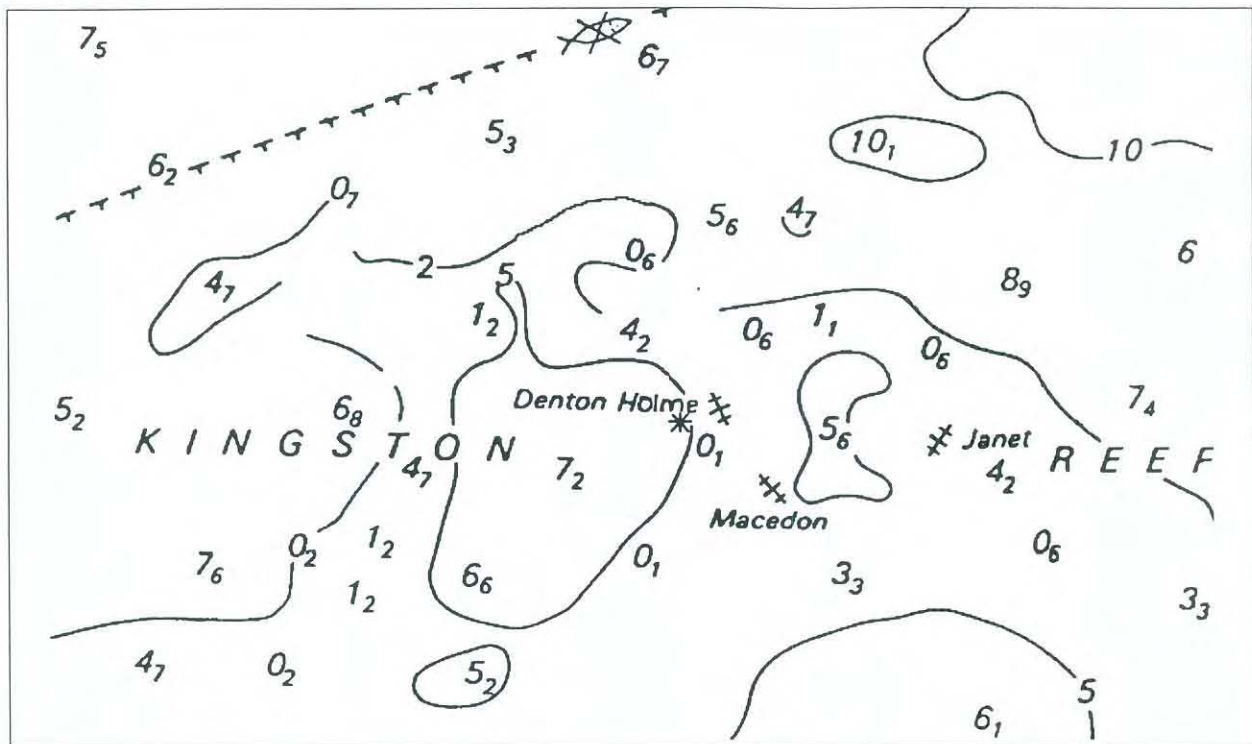
Local dive school operators will be encouraged to give greater emphasis to underwater cultural heritage issues in their diver education programmes. An important feature of the *Macedon* (and *Denton Holme*) wreck sites is that they are accessible to everyone in the community. A semi-submersible glass bottomed boat tour provides non-divers with a rare opportunity to see shipwrecks in their 'natural environment'.

Public access: mooring facility

There are no legal limitations to public access to the wreck for recreational diving although fishing is prohibited within the Maritime Conservation Zone. The Rottnest Island Authority have installed a courtesy mooring adjacent to the *Denton Holme* wreck site for public use on a first come, first served basis. The mooring is suitable for craft up to 21 metres or 30 tonnes displacement. It has been installed to help protect the wrecks and the surrounding reefs from accidental damage caused by boat anchors and serves as a marker for the wreck sites.

Resources and funding

All of the management strategies outlined above can be implemented by the WA Museum without the necessity for special resources or funding.



Map 3. Rottne Island courtesy mooring (Chart: Department of Marine and Harbours 412)

Review process

The wreck site will be inspected annually. A review of the Management Plan is to be implemented every five years. The integrity of artefacts will be reassessed annually and further conservation treatments instigated if necessary. In the event of future amendments to any relevant legislation, the Management Plan will be reviewed immediately to ensure that it complies with all statutory requirements.

RECOMMENDATIONS

In order to protect the structural integrity of the wreck, it is recommended that a conservation plan for *in situ* cathodic protection be designed and implemented. The treatment will be monitored over a period of twelve months, after which, the results will be reviewed and the effectiveness of the treatment will be assessed.

REFERENCES

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APPENDICIES

APPENDIX A. SUMMARY OF MACEDON ARTEFACT COLLECTION

Fremantle Museum

1	steam whistle
1	ship's bell

Rottnest Island Museum

MC1572	1	diving helmet
MC1096	2	forks – brass? with mark
MC1097	1	spoon – with mark
MC1098	1	brass window latch with china knob
MC75108CH	1	red lead
MC75109CH	1	coal lump
MC2577	5	stoneware fragments
MC1112	4	dark green bottle fragments
MC1575	1	green bottle neck and cork
MC2578	1	green bottle neck and cork
MC3292	1	Codds Patent bottle 'MADE FOR WELD HOTEL COSSACK

D CHAPMAN'

WA Maritime Museum

MC25	1	window handle
MC1573	1	iron ring bolt
MC25	1	copper nail
MC25	1	length of copper piping
MC25	2	lead pieces
MC1099	n	lead pellets
MC25	1	black substance (no description)
MC626	n	coal lumps
MC1093	10	brown glaze pottery fragments
MC1094	7	stoneware fragments
MC1574	3	stoneware bottle fragments
MC1095	1	blue and white china fragment
MC2637	1	blue and white china fragment
MC1100	1	glass stopper 'LEA AND PERRINS'
MC1113	n	pale green bottle fragments
MC1113	1	blue bottle fragments
MC1101	1	base of dark blue bottle
MC1114	n	glass fragments in concretion

APPENDIX B. SUMMARY OF MACEDON PHOTOGRAPHIC COLLECTION

100 colour transparencies – wreck site

24 colour transparencies – recovery of diving helmet

75 B/W photographs

16 minutes of video – wreck inspection, December 1992.

APPENDIX C. PUBLICATIONS

Barblett, P., Humphries, V., & McCarthy, M., 1982, *Follow the Rottnest Wreck Trail*. Illustrated information pamphlet, Rottnest Island Board.

Cockram, C., 1990, *The Macedon and Denton Holme*, *Maritime Archaeological Association Reports*, July 1989–June 1990, pp. 18–21.

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APPENDIX D. UNPUBLISHED DOCUMENTS

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APPENDIX E. ARCHIVAL DOCUMENTS

Shipping Registers

Lloyds Register 1883

Lloyds Survey Register

Register of British Ships, Melbourne. CRS A7609/6 Roll 2 (MAD File 865/71)

Board of Trade Wreck Register

Police File 1883–87; Col. Sec. to Supt. of Police, 26/3/1883. Acc. 129, File No. 1570/141.

Fremantle Harbour Master's Journal 1879–86. Vol. 51 Acc. 1056, AN 16/3.

CSO File 1534, fols. 10, 15, 16, 19, 33, & 47.

Newspaper articles

Albany Mail, 28/3/1883, p. 3f: Lilly–hull threatening to collapse. 18/4/1900, p. 3a,b.

Herald, 24/3/1883, pp. 2a,g, 3c: report of departure–wreck–date of inquiry.

31/3/1883, p. 3f: wreckage washed ashore–query re. non sale.

7/4/1883, p. 3d, supplement p.2: report of inquiry–sale to/by(?) McLeery.

14/4/1883, p. 3f: sale of wreck.

21/4/1883, p. 2g: steamer arrangements, mails etc.

5/5/1883, p. 2g: amalgamation of Lilly & Co. with Adelaide Steamship Co.

12/5/1883, p. 2f, supplement p. 2d.

Inquirer & Commercial News, 7/9/1881, supplement p. 2h, 1/10/1883, p. 3c.

West Australian, 13/2/1883 – 13/3/1883 'Shipping Notices'.

13/3/1883, p. 3b.

23/3/1883, p. 3b, e: first press report of wreck.

29/3/1883, p. 3a: a good deal of cargo saved.

30/3/1883, p. 3b, f: preliminary inquiry– vessel breaking up.

3/4/1883, p. 3e: explanation of 'surprise party'.

13/4/1884, p. 3e: McLeery sells hull, ballast to Atwell.

APPENDIX F. *Rottneest Wreck Trail* pamphlet, (Enclosed).

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