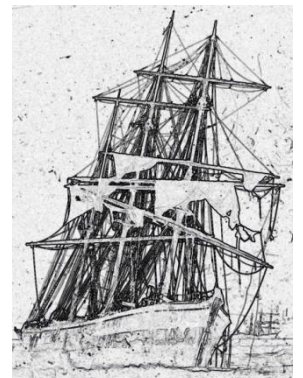


Maritime Heritage Desktop Survey for Umgeni Water Amanzi's proposed construction of desalination plants at:

Lovu River – KwaZulu-Natal South Coast

Tongaat – KwaZulu-Natal North Coast



MARITIME HERITAGE DESKTOP SURVEY FOR UMGENI WATER AMANZI'S PROPOSED CONSTRUCTION OF DESALINATION PLANTS AT:**LOVU RIVER – KWAZULU-NATAL SOUTH COAST****AND****TONGAAT – KWAZULU-NATAL NORTH COAST****SOUTH AFRICA**

Report #: 2016/DBN/001
Status: Interim
Revision #: 1
Date: January 2016

Prepared for: eThembeni Cultural Heritage
Representative: Len van Schalkwyk
Tel: 082 655 9077
Address: Box 20057, Ashburton, 3213, Pietermaritzburg, South Africa
E-mail: thembeni@iafrica.com

Prepared by: African Centre for Heritage Activities
Representative: Vanessa Maitland
ASAPA Registration #: 326
Field: Maritime Archaeology
Address: 61 Chelsea Drive, Durban North, KZN
Tel: (031) 563-2417
Cell: 082 490-4066
E-Mail: finfin@telkomsa.net

Declaration:

I, Vanessa Maitland, declare that I have no financial or personal interest in the proposed development, nor its developers or any of their subsidiaries, apart from the provision of heritage assessment and management services.



Vanessa Maitland
Maritime Archaeologist
22-01-2016

TABLE OF CONTENTS

Table of Contents	3
List of Figures	4
Glossary of Acronyms	5
1. Introduction	6
2. Terms of Reference	6
3. Heritage Resources	6
3.1. The Legislation	6
3.2. Conclusion – The legislation in terms of the project	8
4. Study Approach and Methodology	8
4.1. Extent of the Assessment	8
4.2. Methodology	8
4.2.1. Desktop Survey	8
5. Description of the Affected Environment	9
5.1. Site Location and Description	9
5.1.1. Tongaat Proposed Desalination Plant	9
5.1.2. Lovu Proposed Desalination Plant	9
6. Shipwreck Database	10
7. Conclusions	12
8. References	12

LIST OF FIGURES

Figure 1: Tongaat Desalination Plant Area	9
Figure 2: Tongaat Impact Zone	9
Figure 3: Lovu Desalination Plant Area	9
Figure 4: Lovu Impact Zone	9

GLOSSARY OF ACRONYMS

ASAPA	Association of Southern African Professional Archaeologists
EIA	Environmental Impact Assessment
HIA	Heritage Impact Assessment
MUCH	Maritime and Underwater Cultural Heritage (Includes underwater and land maritime heritage)
NHRA	National Heritage Resources Act (No. 25 of 1999)

1. INTRODUCTION

This report fulfils the first part of the SAHRA Maritime and Underwater Cultural Heritage Unit's conditions as stated in their "Interim Comment – SAH 15/8447". This report is a desktop survey of existing shipwreck databases in the two areas, as delineated in Section 5.1.

2. TERMS OF REFERENCE

The aim of this desktop survey is to determine if there are any known shipwrecks within the defined areas.

The scope of work consisted of the following:

- Desktop study, consisting of a database of known and suspected wrecks in the area ascertained through study of available written and oral resources

The objectives were to:

- Identify potential MUCH sites within the designated area

3. HERITAGE RESOURCES

3.1. The Legislation

According to Section 32 (1) of the NHRA (No. 25 of 1999), heritage objects consist of:

"An object or collection of objects, or a type of object or list of objects, whether specific or generic, that is part of the national estate and the export of which SAHRA deems it necessary to control, may be declared a heritage object, including— (a) objects recovered from the soil or waters of South Africa, including archaeological and paleontological objects, meteorites and rare geological specimens."

The Act further stipulates that the term "archaeological" includes:

"wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the Republic, as defined respectively in sections 3, 4 and 6 of the Maritime Zones Act, 1994 (Act No. 15 of 1994), and any cargo, debris or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation."

Section 35 of the Act states:

"(1) Subject to the provisions of section 8, the protection of archaeological and palaeontological sites and material and meteorites is the responsibility of a provincial heritage resources authority: Provided that the protection of any wreck in the territorial waters and the maritime cultural zone shall be the responsibility of SAHRA.

(2) Subject to the provisions of subsection (8)(a), all archaeological objects, palaeontological material and meteorites are the property of the State. The responsible heritage authority must, on behalf of the State, at its discretion ensure that such objects are lodged with a museum or other public institution that has a collection policy acceptable to the heritage resources authority and may in so doing establish such terms and conditions as it sees fit for the conservation of such objects.

(3) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority.

(4) No person may, without a permit issued by the responsible heritage resources authority—

(a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;

(b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;"

(c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or

(d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.”

Furthermore Section 38 of the Act states:

“(1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as—

- (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
- (b) the construction of a bridge or similar structure exceeding 50 m in length;
- (c) any development or other activity which will change the character of a site—
 - (i) exceeding 5 000 m² in extent; or
 - (ii) involving three or more existing erven or subdivisions thereof; or
 - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
 - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
- (d) the re-zoning of a site exceeding 10 000 m² in extent; or
- (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

(2) The responsible heritage resources authority must, within 14 days of receipt of a notification in terms of subsection (1)—

- (a) if there is reason to believe that heritage resources will be affected by such development, notify the person who intends to undertake the development to submit an impact assessment report. Such report must be compiled at the cost of the person proposing the development, by a person or persons approved by the responsible heritage resources authority with relevant qualifications and experience and professional standing in heritage resources management; or
- (b) notify the person concerned that this section does not apply.

(3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2)(a): provided that the following must be included:

- (a) The identification and mapping of all heritage resources in the area affected;
- (b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7;
- (c) an assessment of the impact of the development on such heritage resources;
- (d) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;
- (e) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;
- (f) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and
- (g) plans for mitigation of any adverse effects during and after the completion of the proposed development.

(4) The report must be considered timeously by the responsible heritage resources authority which must, after consultation with the person proposing the development, decide—

- (a) whether or not the development may proceed;
- (b) any limitations or conditions to be applied to the development;
- (c) what general protections in terms of this Act apply, and what formal protections may be applied, to such heritage resources;
- (d) whether compensatory action is required in respect of any heritage resources damaged or destroyed as a result of the development; and
- (e) whether the appointment of specialists is required as a condition of approval of the proposal.

(5) A provincial heritage resources authority shall not make any decision under subsection (4) with respect to any development which impacts on a heritage resource protected at national level unless it has consulted SAHRA.

- (6) The applicant may appeal against the decision of the provincial heritage resources authority to the MEC, who—
- (a) must consider the views of both parties; and
 - (b) may at his or her discretion—
 - (i) appoint a committee to undertake an independent review of the impact assessment report and the decision of the responsible heritage authority; and
 - (ii) consult SAHRA; and
 - (c) must uphold, amend or overturn such decision.
- (7) The provisions of this section do not apply to a development described in subsection (1) affecting any heritage resource formally protected by SAHRA unless the authority concerned decides otherwise.
- (8) The provisions of this section do not apply to a development as described in subsection (1) if an evaluation of the impact of such development on heritage resources is required in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989), or the integrated environmental management guidelines issued by the Department of Environment Affairs and Tourism, or the Minerals Act, 1991 (Act No. 50 of 1991), or any other legislation: Provided that the consenting authority must ensure that the evaluation fulfils the requirements of the relevant heritage resources authority in terms of subsection (3), and any comments and recommendations of the relevant heritage resources authority with regard to such development have been taken into account prior to the granting of the consent.
- (9) The provincial heritage resources authority, with the approval of the MEC, may, by notice in the *Provincial Gazette*, exempt from the requirements of this section any place specified in the notice.
- (10) Any person who has complied with the decision of a provincial heritage resources authority in subsection (4) or of the MEC in terms of subsection (6) or other requirements referred to in subsection (8), must be exempted from compliance with all other protections in terms of this Part, but any existing heritage agreements made in terms of section 42 must continue to apply.”

3.2. Conclusion – The legislation in terms of the project

There is extensive national legislation covering MUCH sites. Within the scope of this project, Section 38 of the NHRA (25 of 1999), states that an assessment of potential heritage resources in the development area needs to be done. This is the purpose of the desktop study and the future magnetometer survey. These processes identify potential MUCH sites. If a potential MUCH site is later uncovered during the work, a maritime archaeologist needs to be contacted to assess the find. Thereafter, in conjunction with SAHRA, a decision will be made regarding the significance of the site. If it is deemed to be culturally significant, the contractor can apply to the Maritime Unit of SAHRA for a permit for removal, excavation or destruction in terms of Section 35 of the NHRA.

4. STUDY APPROACH AND METHODOLOGY

4.1. Extent of the Assessment

This desktop survey is concerned with MUCH and covers the area as described in Section 5.

4.2. Methodology

4.2.1. Desktop Survey

A shipwreck database was compiled from the available written and oral sources and is available in Section 5.2.

Limitations

- The database is a research tool that is constantly evolving as information is uncovered and added. In addition, the solitary nature of many wrecks means that information may be scarce and/or inaccurate.

Therefore, without definitive information, shipwrecks are allocated to an area, based on limited information and certain assumptions regarding the dynamic nature of the environment.

5. DESCRIPTION OF THE AFFECTED ENVIRONMENT

5.1. Site Location and Description

5.1.1. Tongaat Proposed Desalination Plant

Area off Tongaat Desalination Plant. Collectively called the Tongaat Impact Zone. We have created an impact zone of 500 metres on either side of the proposed sea intake pipe (equals one kilometre) and one kilometre past the end of the pipeline.

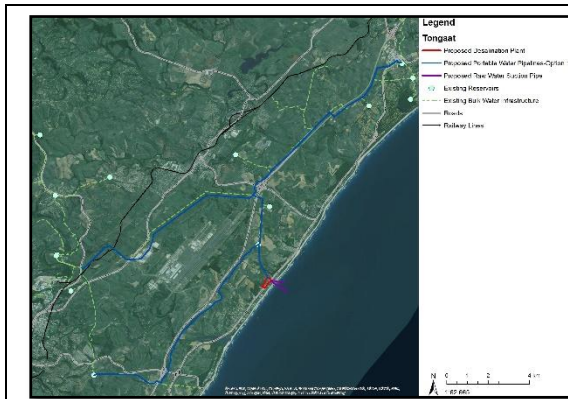


Figure 1: Tongaat Desalination Plant Area (Image eThembeni 2015)



Figure 2: Tongaat MUCH Impact Zone (Google Earth 2016)

5.1.2. Lovu Proposed Desalination Plant

Area off Lovu Desalination Plant. Collectively called the Lovu Impact Zone. We have created an impact zone of 500 metres on either side of the proposed sea intake pipe (equals one kilometre) and one kilometre past the end of the pipeline.

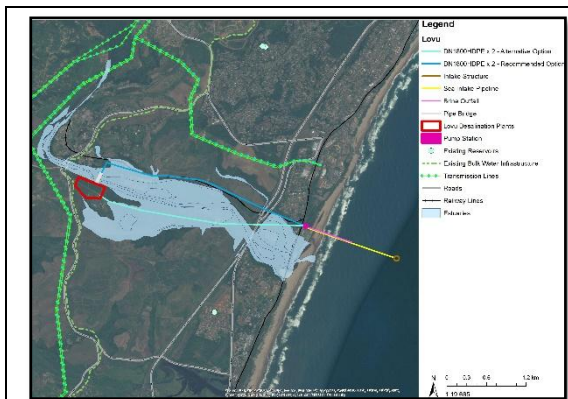


Figure 3: Lovu Desalination Plant Area. (Image eThembeni 2015)

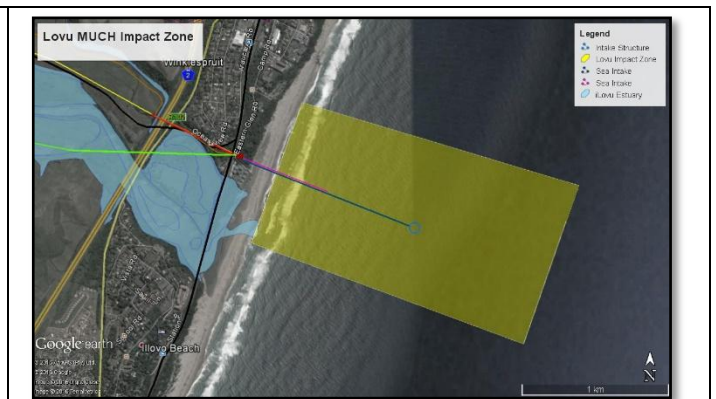


Figure 4: Lovu MUCH Impact Zone (Google Earth 2016)

6. SHIPWRECK DATABASE

The nature of the environment, poor historical reporting and the length of time since the wrecks occurred means that underwater cultural heritage sites may literally be anywhere and are thus hard to pinpoint with any accuracy beforehand. It is important to have a database because if MUCH sites are uncovered during the project, it will be easier to identify the wreck and thus assess its cultural and historical significance.

#	Name	Events	Home Port	Date	History
Tongaat Impact Zone					
1	<i>SS Octopus</i>	Wrecked	Britain	15-10-1906	Steel, twin-screw hopper dredger of 969-tons. Built in 1895 by W. Simons & Co in Renfrew. Under Capt. Thomas Ogilvie, she ran ashore south of Ballito Bay. The Natal Government had sold her the Administration of Geelong, Australia after having spent a number of years working in Durban Harbour. The <i>Octopus</i> was being delivered to Australia and was heavily laden with 780-tons of coal for the voyage. However, shortly after leaving Durban, she ran into heavy weather and took on water. This inrush of water extinguished her furnaces. Shortly before abandoning her, the crew released a messenger pigeon, presumably requesting assistance.
2	<i>Ocean Surf</i>	Wrecked	SA	29-03-1979	Silver Harvest Trawling Co. Built in 1946 by Richards Iron Works, 27.83 x 6.33 x 2.921m with a 360 bhp that could do 10 knots. Her home port was Cape Town. This 122-ton trawler was en route to the fishing grounds when she became disabled. She drifted onto a reef 200 metres from the shore off Tongaat Beach. She could not be refloated and one person was drowned in the mishap.
3	<i>Isle of Capri II</i>	Wrecked	SA	29-08-1973	This 44-ton charter fishing boat sank in heavy seas off Umhali after her stern was ripped off by the vessel she was towing, the <i>Pelican</i> . All the crew survived.
Lovu Impact Zone					
4	<i>Tonga</i>	Wrecked	British	16-05-1875	This 299-ton schooner, built by Bullard King & Co. in 1874 in Gibbon, Sunderland measured 132.5 x 28.1 x 12.19 feet. Registered in London and under Captain W.P. Armitage. She was bound from London to Durban with a general cargo when she was driven on the rocks, 150 metres from the shore, just north of the "Illovo" River Mouth. The crew and five passengers reached the shore safely and walked to the Illovo Hotel. The wreck was later auctioned to Sydney Turner for £650. Salvors directed by Mr Forte camped on the beach and built a small shop at the stream, since known as Winkelspruit.
5	<i>H.C. Richards</i>	Wrecked	Norwegian	02-11-1893	Built in 1863 by W.H. Potter & Co. in Liverpool, she measured 185 x 29.8 x 21.1 feet. This 806-ton barque (ex- <i>Emily Faithful</i> ; ex- <i>Iron Queen</i>) was originally built as an iron clipper but was rebuilt as a barque. Carrying a deal cargo, she holed herself on Aliwal Shoal and became waterlogged. She was run aground near the mouth of the Illovo River and thereafter apparently patched and towed to Durban. Thereafter she was towed to the Cape and condemned. She was later scuttled in Salamander Bay to form a jetty.
Wrecked "Off Port Natal"					
6	<i>Colombo</i>	Wrecked	Dutch	24-09-1822	Bound from Batavia for Holland. Wrecked off Port Natal.
7	<i>Buckbay Packet</i>	Wrecked	British	June 1823/24	In February 1828 the government schooner called at Port Natal on her way to Delagoa Bay. Shortly after leaving, she was driven ashore during a gale. Her captain died of 'fever' on the coast.
8	<i>Koh-I-Nor</i>	Abandoned		01-01-1867	This 701-ton British ship under Captain H. Rutter, was on a voyage from Calcutta to Boston with a general cargo. She was abandoned at 30° 22' S 29° 30' E (Please note these cannot be compared to modern day co-ords, they need to be converted).

#	Name	Events	Home Port	Date	History
					This is somewhere near the Natal coast. The crew were taken aboard the Russian ship, <i>Tahli</i> and were landed at Cape Town a week later.
9	<i>Cotehele</i>	Wrecked	British	18-11-1894	Built in 1892 by Sir R. Dixon & Co. in Middlesbrough. 299.5 x 40.1 x 20.5 feet. 200 hp engine. This 1715-ton steamer sailed from Durban for Delagoa Bay. She struck Tenedos Shoal and returned to Durban for repairs. However, she was wrecked two weeks later on the coast of Natal.
10	<i>Octopus</i>	Wrecked	Durban	14-10-1906	Built in 1895 by W. Simon & Co (Ltd) in Renfrew, this 969-ton steel twin-crew dredger was en route to Australia from Durban on 13 October when she encountered a gale. By the following morning, she had shipped a lot of water and her crew abandoned her in two boats. The boat with Capt. Ogilvie aboard capsized while trying to beach two-and-a-half kilometres north of the Umhlanga River. The captain's wife and two children were drowned. The second boat beached at Umhlanga Rocks and the crew landed. The dredger eventually drifted ashore on the "Natal North Coast" and disintegrated.
Disappeared en route to or from Port Natal/Durban					
11	<i>São Thomé</i>	Abandoned	Portugal	March 1589	This carrack sailed from the Indian port of Cochin in January 1589 under the command of Estevao da Veiga. Although she was one of the richest vessels to sail from India, she was in poor condition, due to rampant corruption. During a south-east gale, one of the seams in her bow opened and although the leak was repaired, allowing her to continue, it wasn't long before a more serious leak developed in her stern. The vessel was approximately 480 kilometres off the southern African coast and her pepper-clogged pumps were unable to clear the water from her hold. The <i>São Thomé</i> was disabled and adrift, her lower decks under water. At dusk, on 16 March, land was sighted. The next morning 109 officers, crew, rich passengers, clergy and a few slaves took the only longboat and abandoned ship, leaving the balance aboard to their fate. However, the long boat was too crowded and eleven people were thrown overboard. Two days later the boat reached shore and only a few managed to walk to Mozambique. While there are different ideas as to where the longboat came ashore, from St Lucia to Lake Sibayi, no one knows where the <i>São Thomé</i> ended up. She may have drifted ashore anywhere on the KwaZulu Natal coast or she may have sunk offshore. For this reason, I have included the vessel in the database as there is a possibility that she may be in the impact zones.
12	Penelope	Disappeared	British	1591	East Coast
13	Zeelt	Disappeared	VOC	1672	After departing Table Bay
14	Kers	Disappeared	VOC	1697	Between. Batavia and Table Bay
15	Unknown	Wrecked		1730's	Anecdotal evidence, from a number of sources, that an English vessel went ashore somewhere south of Durban.
16	I	Disappeared	British	1806	Between Table Bay and Bengal
17	Calcutta	Disappeared	British	1809	Between Mauritius and Britain
18	Jane Duchess of Gordon	Disappeared	British	1809	Between Mauritius and Britain
19	Lady Jane Dundas	Disappeared	British	1809	Between Mauritius and Britain
20	Sir William Bently	Disappeared	British	1809	Between Mauritius and Britain
21	<i>Julia</i>	Disappeared/ Wrecked		December 1824	This 25-ton sloop or brig left Durban for Algoa Bay and disappeared. On her were 11 settlers and 12-days provisions. She was expected to return with supplies for the budding Natal settlement. The Cape Town Gazette (1825) states, "A quantity of staves were picked up near Middle Point Natal by some of

#	Name	Events	Home Port	Date	History
					Farewell's people, which were recognised to have come from the <i>Julia</i> and leads them to conclude that she was lost near that place.". It was believed that she caught fire and sank.
22	<i>Alma</i>	Disappeared/ Wrecked		May 1864	This schooner under Captain Duzdale was travelling from Cape Town to Natal and disappeared.
23	<i>Tien Esser</i>	Abandoned / Wrecked	German	05-01-1875	This schooner was bound for Natal with a cargo of wheat and flour. She foundered at sea and the survivors were rescued by the Dutch barque <i>Galilie</i> . One life was lost.
24	<i>Emin</i>	Disappeared	German	19-12-1893	Owned by the Deutsche Ost-Afrika Linie, built in 1891 by Blohm & Voss in Hamburg, she measured 172 x 25 x 14.2 feet. 90 hp engine. Home port, Danzig. This 373-ton steamer sailed from Durban for Mozambique with a coal cargo. She disappeared but some scattered wreckage was found later on the Zululand coast.
25	<i>Lindo</i>	Disappeared	Norway	August 1913	Built in 1891 by Workman Clark & Co. in Belfast and measuring 256.2 x 37.9 x 21.9, this 1475-ton vessel (ex- <i>Marian Woodside</i>) under Capt. Jensen was bound from Taltal with a nitrate cargo. She sailed from Durban on 26 August 1913 and disappeared.

7. CONCLUSIONS

As there are at least three possible wrecks in the Tongaat Impact Zone and two in the Lovu Impact Zone, it is strongly recommended that a magnetometer survey be undertaken. In addition, as can be seen in the database, there are at least five vessels that wrecked in the vicinity of "Port Natal", This was the historical name for Durban and Durban Bay. There are also at least fifteen vessels that disappeared en route to-or-from Durban and may be in the impact zones.

REFERENCES:

Legal Sources:

National Environmental Management Act, 1998 (Act No. 107 of 1998)
National Heritage Resources Act, 1999 (Act No. 25 of 1999)

Written Sources:

Levine, M. Unpublished Manuscript.
Maitland, Vanessa. Unpublished Shipwreck Database.
Turner, Malcolm. 1988. Shipwrecks & Salvage in Southern Africa: 1505 to the Present. Cape Town. C. Struik.

Map Sources:

Google Earth. Accessed 2016.
eThembeni Cultural Heritage. 2015.