Historical background, search, discovery and inspection of the iron barque *Langstone* (1869-1902), Naturaliste Reef, Western Australia

Report No. 360 – Western Australian Museum, Department of Maritime Heritage

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GOVERNMENT OF WESTERN AUSTRALIA

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Cover image: Langstone *rigged as a barque in an unidentified port ca. 1882-1896. A.D Edwardes Collection, State Library of South Australia, PRG 1373/30/42.*

Acknowledgements

The survey and inspection was undertaken aboard *Equador* (Steve Thomas and Nicole Miles) as part of the Disney+ six-part documentary series *Shipwrecks Hunters Australia* Season 2, in collaboration with Terra Australis Productions, VAM Media, and Barking Mad Productions.

Diving was undertaken under the supervision of Marc Payne (Shipwreck Hunters One Pty Ltd) and Pam Sutton (WA Museum).

Dr Adele Millard undertook historical research in Norwegian archives in June-July 2025 and provided English translations for Norwegian source material.

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Abstract

The 766-tonne, three-masted iron barque *Langstone* was built in Sunderland, England, in 1869 for the Shaw, Savill & Albion Line. Later owned in Fredrikstad, Norway, a port with a reputation as 'the city of wooden sailing ships', it became the port's first iron sailing ship. For more than three-decades the vessel carried cargo around the world before entering the Western Australian timber trade.

On 8 February 1902, laden with jarrah railway sleepers bound for London, *Langstone* struck Naturaliste Reef near Cape Naturaliste during a fierce south-westerly gale. Within twenty minutes of striking the reef the vessel had slipped into deep water. Although all crew made it safely into the lifeboats, one sailor lost his life before making it ashore.

The wreck was discovered on the 12th of November 2024, four kilometres north of Naturaliste Reef, during survey carried out as part of the Disney+ documentary series *Shipwreck Hunters Australia*. Lying upright in 45 metres of water, the site offers a glimpse into Western Australia's historic hardwood export trade and the global reach of Norwegian shipping at the turn of the twentieth century.

Technical Data

Site name: *Langstone* **Date lost**: 8th of February 1902

Date of discovery: 12th of November 2024

Location

Four kilometres north of Naturaliste Reefs, 35 km north of Cape Naturaliste

Lat: 33°12.7459’ S **Long:** 115°01.6233’E **Datum:** WGS84

Depth of water: 45 m

Expedition

Vessel: *Ecuador* (UVI-434002)

Personnel:

Deb Shefi (WA Museum) **OIC**
Johnny Debnam (Terra Australis)
Ryan Chatfield (Terra Australis)
Anouska Freedman (Terra Australis)
Andre Rerekura (Terra Australis)
Marc Payne (Shipwreck Hunters One Pty Ltd)

Discoverers

Primary: Ryan Chatfield, Johnny Debnam, Anouska Freedman, Andrew Rerekura (Terra Australis Productions); Dr Deb Shefi, Dr Ross Anderson (WA Museum); Brendan Hutchens (VAM Media), Marc Payne, Stephen Thomas.
Secondary: Darren McCagh, Rhys Jones, Jason North, Nicole Miles.

Background

In 1869, the 766 ton, 56 metre length, three-masted iron ship *Langstone* was built in Sunderland, United Kingdom by William Pile & Co with a single deck, two tiers of beams, one bulkhead, cemented, and a raised quarterdeck 45 feet in length (*Lloyds Register* 1881). Under Norwegian ownership it is later described as being rigged as a barque, having one tier of beams, and had its deck replaced in 1887 (*Det Norske Veritas* 1902).

Langstone was constructed for the famous English Shaw, Savill & Company shipping line that in 1882 merged with the Albion Shipping Company to become the Shaw, Savill and Albion Company Ltd (Shaw Savill and Albion Line, 2025). The vessel spent most of its life carrying cargo and passengers between the United Kingdom, Australia and New Zealand. In 1897 Norwegian ship owner and master Captain Charles Charles V. Mørch of Frederikstad, Norway purchased the thirty-year old *Langstone* (Engebretsen 1999:506). Most Australian newspaper references relating to the wrecking event spell the ship's name as *Langston,* however the Norwegian registration confirms the ship's name was *Langstone* (pronounced 'Lang-stonar' in Norwegian) (*Det Norske Veritas* 1902, Appendix A).

From the late 18th century, Frederikstad had developed into a bustling port town, with a number of shipowners settling there to carry out their business. The Mørch family were a well-known ship owning family here, with the most important shipowner from the beginning of the 19th century being Lars Knudsen Mørch (1764-1825). Lars' brother, sons and their cousins also took up the ship-owning trade, with the main cargo being Baltic timber. Frederikstad had a reputation as 'the city of wooden sailing ships' hosting one fifth of Norway's wooden ship fleet, more than any other Norwegian city, and was Norway's last major wooden ship town (Andersen 2014:6-9). It is in this context that *Langstone* became Frederikstad's first iron sailing ship, with one Norwegian newspaper reporting it to be "Fredrikstad's most beautiful sailing ship" (Engebretsen 1999:506). No other iron ships were registered in Fredrikstad until after the turn of the century (ibid).

Before the turn of the century, only the occasional Fredrikstad ship sailed to Australia, with many involved in the Atlantic trades sailing to South America, and sometimes in other distant waters. Foremost among these were Captain Charles Mørch's two sailing barques, *Langstone* and *Lanercoast*, which were constantly away on lengthy voyages (Engebretsen 1999:76, 80). By 1880, Norway had the third-largest merchant fleet in the world, predominantly made up of second-hand wooden sailing ships approaching obsolescence (Derry 1973:118; Anderson 1997:100). Shipowners were able to make these ships profitable by putting their vessels on slower, longer routes such as to South America and Australia carrying bulk goods such as coal, guano and timber, with minimal crew numbers prepared to work in difficult conditions. Coal from Newcastle in

New South Wales, guano from the islands offshore Northwest Western Australia and hardwood timber from Western Australia were the major bulk cargoes exported from Australia (Figure 1).

Historian Geoffrey Blainey (1966:283) wrote of the Western Australian hardwood timber export trade (mainly jarrah (*Eucalyptus marginata*) and karri (*Eucalyptus diversicolour*) and the importance of Norwegian shipping interests to this trade at the end of the nineteenth century as follows:

> Western Australia's timber ports were magnets for sailing ships at the end of the century. Cheap sea transport helped the hardwoods from Western Australian forests to win an export market in every corner of the world, and transport changes even provided their market. Most of the heavy logs and planks of undressed jarrah became harbour wharves or became railway sleepers on new lines in Uruguay, Portuguese East Africa, Natal, India, China or New Zealand. Another market for West Australian hardwoods was Britain where city streets that were scoured by heavy-wheeled horse traffic were being paved with cheap blocks of hardwood. In the Sailors' Home or on the waterfront [in Bunbury] one could hear the floating babble of Finnish and Russian, Italian and German, Yankee and sometimes English voices; but the most common ship was Norwegian and when old King Oscar of Norway had his birthdays half the port was gay with flags and bunting.

Figure 1 An iron barque loading timber and SS Hobart *loading produce at Bunbury circa 1920 (State Library of WA, BA1886/496).*

On the 7th of December 1901, enroute from Madagascar, on a voyage to Australia to load a cargo of timber for Millars' Jarrah and Karri Forests Ltd destined for London, *Langstone* arrived in Koombana Bay, Bunbury with thirteen crew. Two months later, on Friday the 7th of February 1902, fully laden with 721 loads of Western Australian hardwood, *Langstone* was ready to sail, but Captain Mørch delayed the vessel's departure due to the sailor's superstition that it was unlucky to set sail on a Friday (Worsley and Green, 2012).

Thus, in the early hours of Saturday morning on the 8th of February 1902, *Langstone* departed Bunbury, bound for London. Winds were fine, however by noon, it began blowing a gale from SSW to SW, with heavy cross seas. Originally travelling at eight knots on a course of NW½W, Captain Mørch instructed the crew to turn west, to avoid the low-lying Naturaliste Reef (*West Australian*, 1902:7; *The Sydney Morning Herald,* 1902:5) (Figure 2).

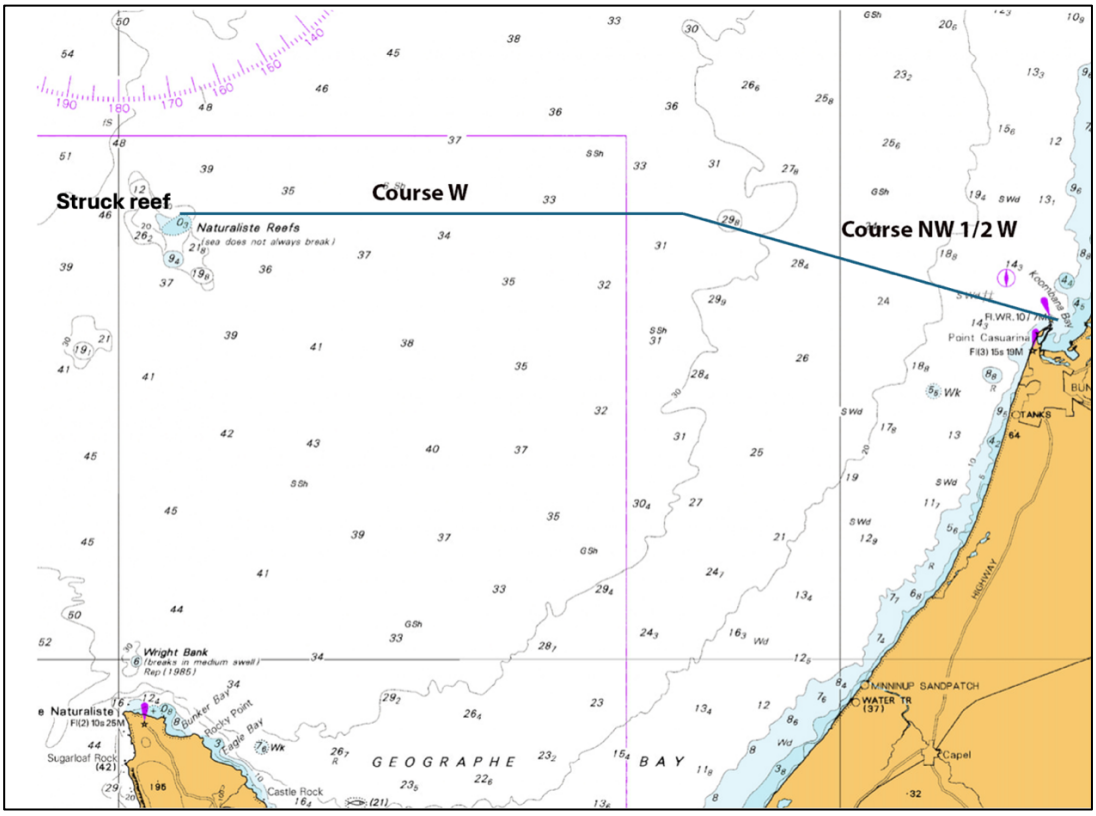

Figure 2 Admiralty chart of Geographe Bay showing the location of Naturaliste Reefs, Koombana Bay (Bunbury), Cape Naturaliste and likely course of Langstone.

Due to the strong winds, whitecaps were breaking all around, making it difficult to detect the location of the hazardous, low-lying reef.

Captain Mørch provided the following account of the sinking event, with key aspects of the location and timing of the sinking in bold:

About 2 o’clock in the afternoon I suddenly picked the reef right in front, and at once attempted to luff, but it was too late, and the next moment we went crashing over the rocks, which **I am satisfied formed a portion of the Naturaliste Reef, the Cape bearing S.S.W. about 24 miles. The ship at once commenced to go down,** and when, on sounding the hold, I found that she had made nine feet of water in a few minutes, I gave the order to clear away the boats. Within ten minutes the lifeboat was in the water, and myself and the crew, thirteen all told, scrambled into it with great difficulty. We were unable to save anything except, the clothes we stood in, and, in fact, we were lucky to get safely away, as **ten minutes after we had left, and twenty minutes after she had struck, the vessel went down in 23 fathoms of water**. "The wind was blowing at the time with unabated force, and compelled us, instead of heading for Bunbury, as we had intended, to give away a little, and set a course for the shore further to the northward. We were forced to rely entirely on the oars, as it was impossible to set a sail. At ten o'clock on the same evening one of the crew, Andreas I. Larsen, suddenly dropped his oar and fell to the bottom of the boat in a state of madness. He was totally exhausted, and raved incoherently. His condition unnerved the other men for a while, but, they quickly recovered themselves. At noon. on Sunday a sail was set, and a much better rate of progress was maintained. At 3 p.m, Larsen, who had not recovered his reason, expired, and two hours later the boat, reached the coast close to Lake Preston, and we all went ashore after securing our craft. Despite the fact that we had had nothing to eat or drink since leaving the vessel the previous day, we did not greatly feel the effects of our long fast, but all suffered terribly from exhaustion. After searching about for a couple of hours, we found the house of Mr Venn, a settler, who look us in, treated us most hospitably, and gave us accommodation for the night. After breakfasting at the house of our charitable friend, we bade him farewell, and, having hauled our boat further up on the beach, we proceeded on our way, taking with us the body of our late companion. Following instructions received from Mr Venn, we came across the house of another settler, whose name, I think, was Jones. We also received kind treatment there, and were driven into Bunbury, myself and the mates with the dead body arriving at 9 p.m. the same day, and the remainder of the crew at midnight. We were very hospitably treated by the shipmasters and people at Bunbury, and the crew were accommodated on the various vessels in port. I handed the body of the deceased sailor to the police, who removed it to the morgue, and then reported my plight to the sub-collector of Customs (*Bunbury Herald*, 13 Feb 1902:2).

The names of the predominantly Norwegian and Swedish crew, and one German crewmember, were reported as: Karl Sundby (or Carl Sundbye) (Mate), Johan Weiseth (Second Mate), Nicolai Stenstrom (Steward), Andreas Nicolarsen (Carpenter), Hilmer Huovila (Sailmaker) and sailors Andreas Ingrald Larsen (deceased), Edward Ludstrom,

Oswald Johnsen, John Svee, Hildar Flink, Erick Hartung and Bruno Schbenviogl [Schoenvogel?] (*The West Australian* 12 Feb 1902:7). Miss Eliza Cons of the Sailors' Rest organised a fundraiser by the Orchestral Society to provide the destitute crew with clothing and money (*Bunbury Herald*, 13 Feb 1902:2). After an inquest which determined the cause of 22-year old Andreas Larsen's death as drowning, a funeral ceremony was held, and he was interred in Bunbury's Church of England cemetery. The funeral was attended by several captains of ships in the harbour, the coffin draped with a Norwegian flag with wreaths provided by the Sailors' Rest. A Norwegian funeral service was read by one of the captains (ibid). The unfortunate Larsen had previously been shipwrecked in Madagascar, where he had joined the crew of *Langstone* (*The West Australian* 12 Feb 1902:7).

While *Langstone* was fully insured, the cargo was not (*Bunbury Herald*, 13 Feb 1902:2). Following the loss of *Langstone*, Captain Mørch did not buy any more ships (Engebretsen 1999:506).

2024 Search and Survey

In determining the priority areas to conduct a search for *Langstone,* newspaper reports containing accounts by the crew gave various positions for the wreck. One report stated that the vessel struck a reef "25 miles south-southwest of Cape Naturaliste" (*West Australian*12 Feb 1902:7), which is obviously incorrect, possibly a journalist's error. As above, Captain Mørch reported the vessel slipped off the reef and sank within 30 minutes (*Bunbury Herald*, 13 Feb 1902:2).

First Mate Carl Sundby's account of events also indicated that *Langstone* sank almost immediately after slipping off the reef:

> We started to bail ten minutes after we were in the boat. The *Langston* [sic] gave a lurch, heeled over, and slipped over the edge of the rock. Lying for about a minute with her keel in a vertical position, the poop, mizzenmast, and part of the keel were visible. That was the last we saw of her, as she sank out of sight into deep water (*Bunbury Herald*, 13 Feb 1902:2).

Second Mate Johann Weiseth reported the "the vessel struck a reef about a mile west of the Naturaliste Reefs" (*Western Mail,* 15 Feb 1902:17). Following Weiseth's description, Worsley and Green (2012:193) thought it would be "…most probable that the *Langston* struck the southern section of Naturaliste Reef, and that Weiseth saw the waves breaking against the northern reef which was seven cables (1,418 metres) from him, and in a north-easterly direction".

Assessment of the bathymetry of the Naturaliste Reef shows that the northernmost section of the reef is the shallowest area rising to within 0.3 metres of the lowest

astronomical tide (LAT) level and was therefore most likely to have been struck by *Langstone* on its westward course. The southern parts of the reef with least depths of nine metres would be too deep to strike, allowing for a maximum five metre draft of the laden ship. Following this logic, the northern part of the Naturaliste Reef was selected as the priority search area.

It was initially thought the search would be relatively straightforward, given the reports that the ship had struck the reef and slipped off to sink almost immediately in 23 fathoms/ 42 metres depth. While depths around Naturaliste Reef are in the range of 30-39 metres it was unclear how the reported depth of the wreck had been determined, as it appears unlikely the crew would have been able to sound over the site as they were fast being blown northwards, and it might have referred to the last sounding the crew took before the ship was wrecked. Thus, planning for the search focused on searching the edge of the reef contour where it met the seabed close to the shallowest, north-east edge of Naturaliste Reefs, in the path of the ship's westerly course outward-bound from Bunbury/ Koombana Bay. While it was predicted the wreck should be found in the immediate vicinity of the reef, the search could expand further seawards if the wreck was not located.

Between the 9th and 13th of November 2024, staff from the Maritime Heritage Department at the WA Museum participated in the search for the 19th century three-masted, iron-hulled barque *Langstone* as part of the Disney+ six-part documentary series *Shipwrecks Hunters Australia* Season 2. The project was undertaken in collaboration with Terra Australis Productions, VAM Media, and Barking Mad Productions aboard the vessel *Ecuador* (UVI-434002).

The aims of the survey included:

1. Conduct a magnetometer and side scan sonar survey near Naturaliste Reefs using boat-based remote sensing equipment to locate and obtain geo-referenced sonar targets.
2. Use a remote operated vehicle (ROV) to ground-truth targets.
3. Capture imagery of the targets for archaeological assessment and identification.

Summary of activities

Remote Sensing

Remote sensing activities were undertaken using the 14.5 metre power-monohull vessel, *Ecuador*, out of Port Geographe Marina.

A total of four days were used to survey the seafloor around Naturaliste Reefs. An EdgeTech 4125 tri-beam side scan sonar (SSS) with a Geometrics G-882 Magnetometer piggy-backed to the SSS were utilised during the survey.

Sea conditions around the shallow areas of the reef dictated the search pattern around the shallowest areas of the reef; both ends of the reef were subject to breaking waves during the survey (Figure 3).

Figure 3 Breaking waves at Naturaliste Reefs on 9 November 2024 (WA Museum).

Based on the historic accounts, it was presumed the vessel struck the shallowest, central area of the reef, and after sliding off the reef, sank nearby (Figure 4). The search therefore commenced around the proposed location of the wrecking event, with the aim to expand the survey north and east from the reef—in a downwind direction according to the reported strong SSW wind at the time of the wrecking event—until the vessel was relocated.

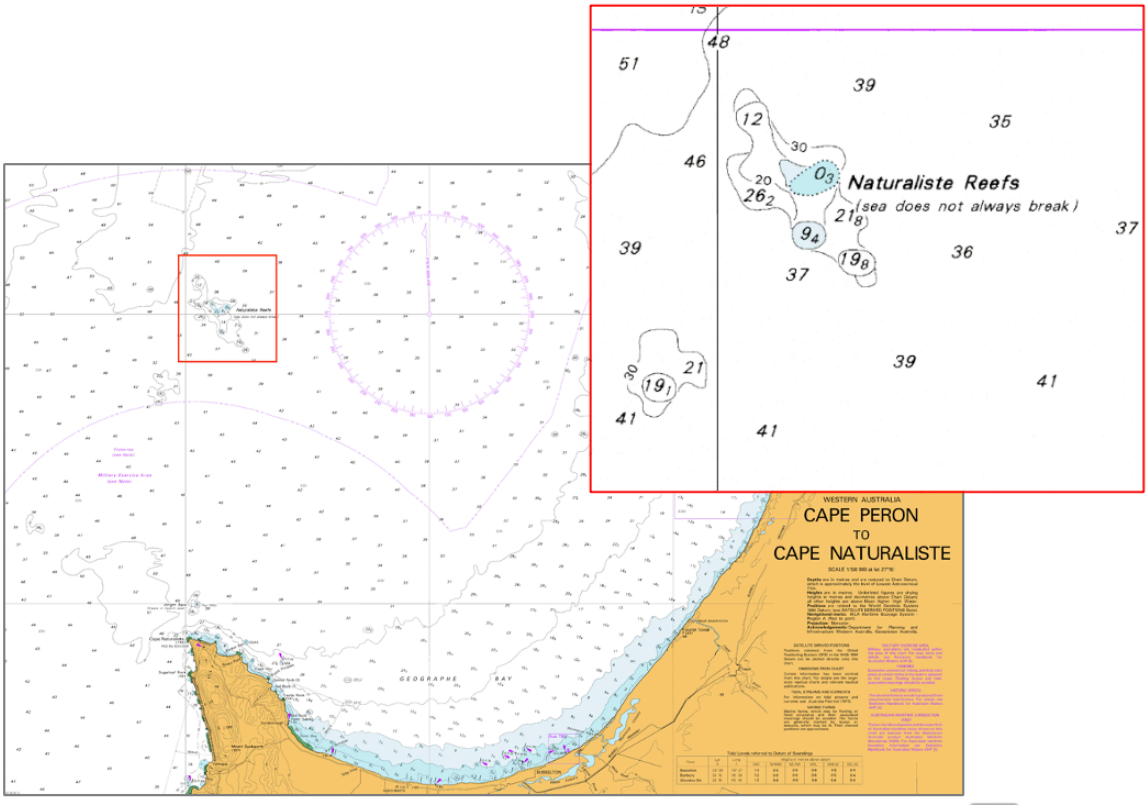

Figure 4 GIS map showing initial search area based on historical accounts.

At the eastern, shallowest point of the reef, suction was visible as water pulled away from the reef, fully exposing the top of the reef and spouting walls of water around the rock, before submerging the reef. To minimise risk to the vessel and survey gear, initial E-W survey lines were run 1 km x 2.5 km north of the reef and a 0.5 km x 2 km search was undertaken following the southern edge of the reef.

Magnetometer hits were prevalent throughout the abovementioned survey areas. Sidescan sonar imagery showed reef structure along the seafloor, with no cultural material identified. To confirm the targets were geological, and wreck material was not masked amongst the reef, the northern survey area was resurveyed (Figure 5).

Over the four-day survey, a 3 km x 5.4 km area, totalling nearly 230 km square of seafloor was surveyed, with survey lines averaging 100m spacing (

Figure 6).

On the 12th of November, a wreck of an iron, three-masted sailing ship subsequently confirmed to be *Langstone* was discovered four kilometres north of Naturaliste Reefs (Figure 7).

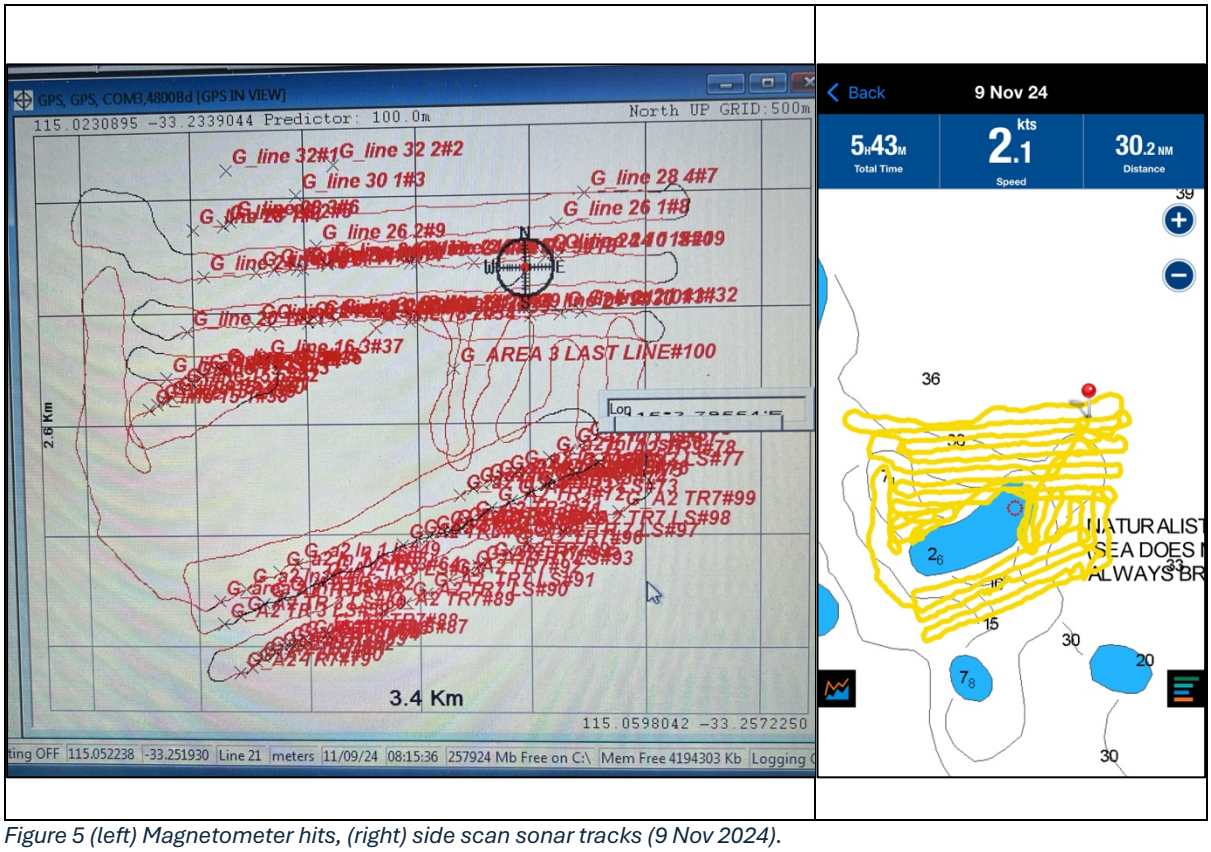

Figure 5 (left) Magnetometer hits, (right) side scan sonar tracks (9 Nov 2024).

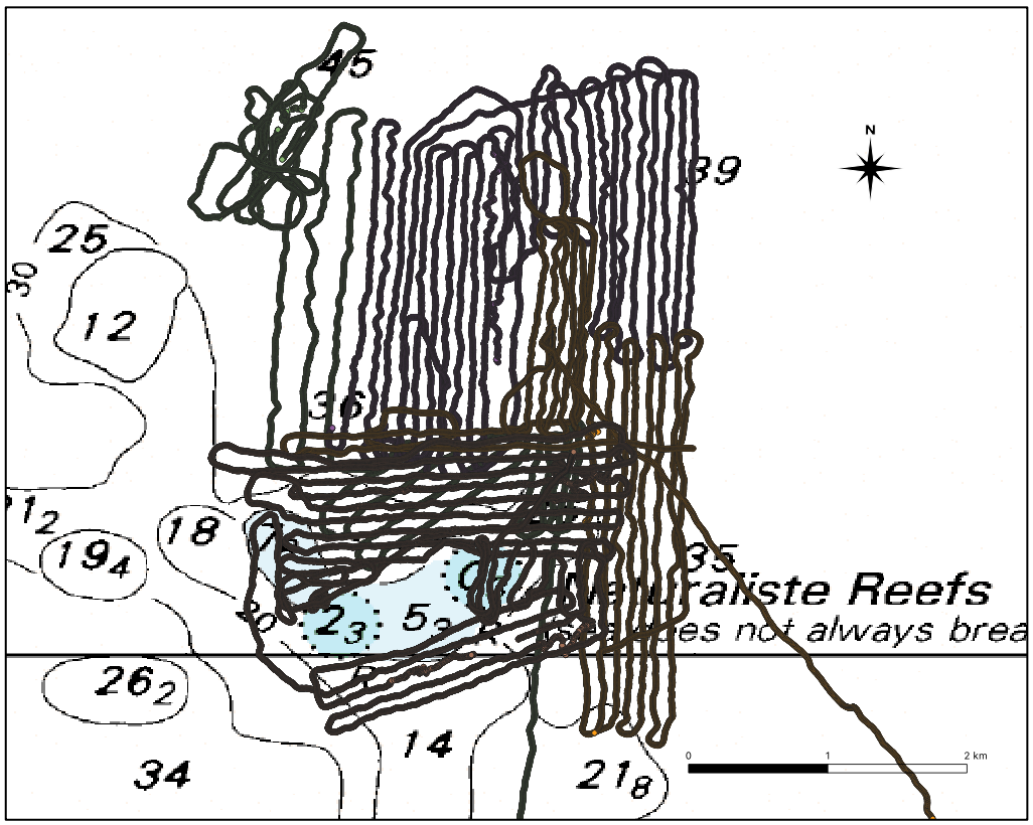

Figure 6 Total survey area undertaken between 9 - 12 November 2024.

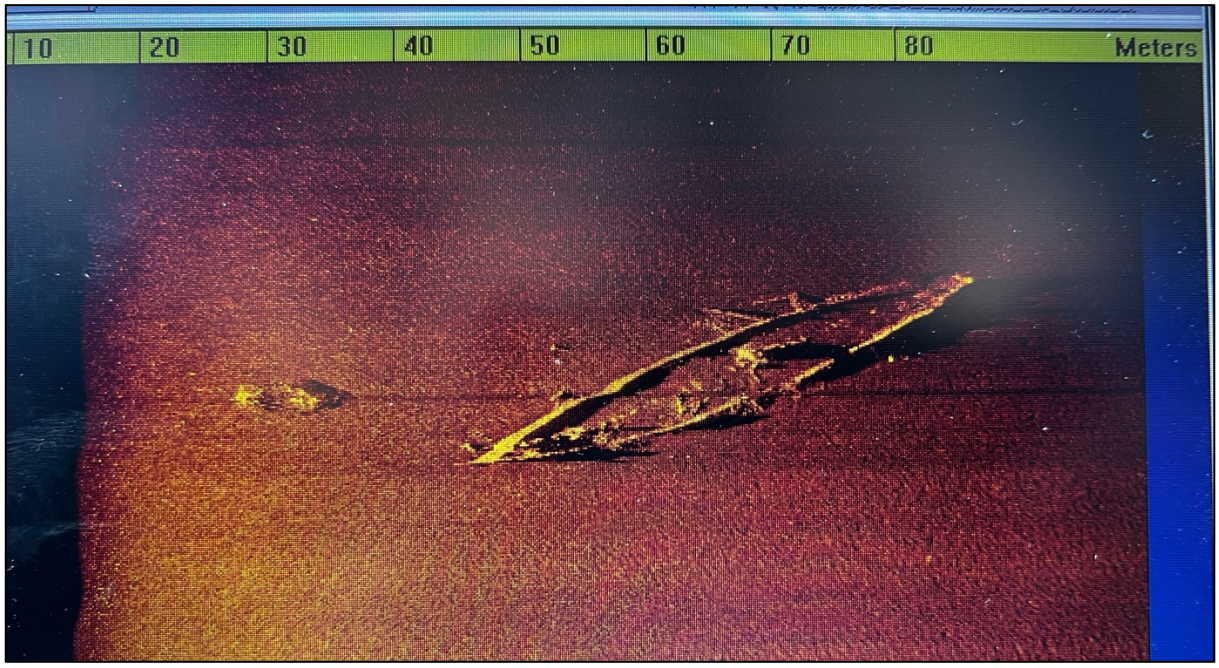

Figure 7 Side scan sonar image of Langstone recorded on12 November 2024.

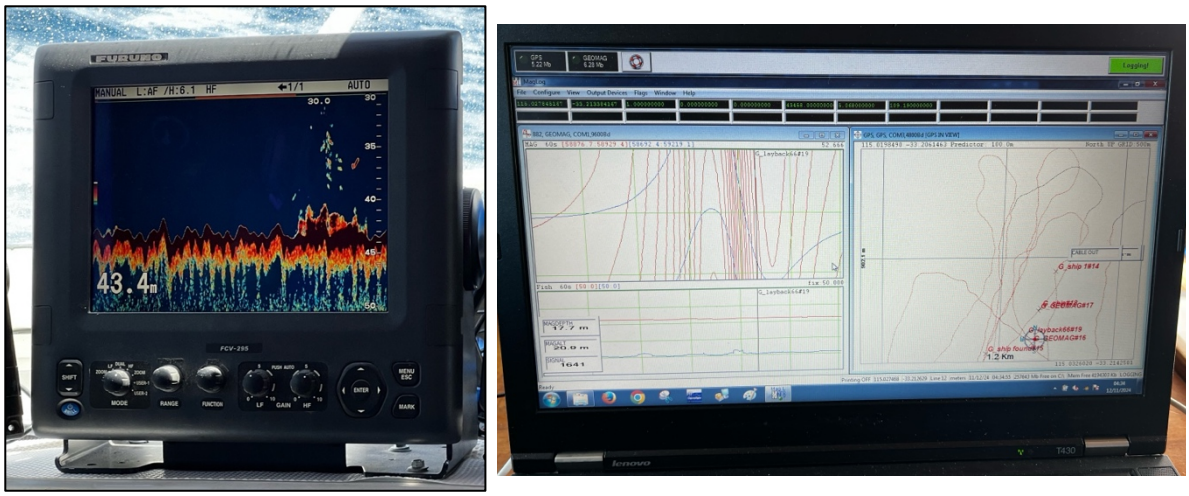

Figure 8 (left) Ecuador sonar image of wreck site; (right) magnetometer readings over site (12 Nov 2024).

ROV and Diving Inspections

A BlueROV was deployed on the 12th of November 2024 to visually confirm the site (**Error! Reference source not found.**), followed by a diving inspection on 13th November carried out by two divers using closed-circuit rebreathers. Strong winds and rough sea conditions were unfavorable for safe diving operations, resulting in the dive-day being limited to one dive.

Site Description

The wreck is approximately 55 metres in length and rests in 45 metres of water, on a flat sandy seafloor, running approximately west (bow) to east (stern). The vessel appears to have landed perfectly upright, and there is no visible list to the wreck. The stem and the sternpost rise approximately 4 metres off the seabed (Figures 7 and 8). Two Admiralty-type anchors are visible along the starboard forward quarter of the wreck site. The main deck, quarterdeck and deck houses appear to be missing, however no in-depth search was undertaken in the immediate vicinity of the wreck for outlying material. A large unidentified object lying west-northwest of the bow of the site was located on the side scan sonar, but not able to be inspected to confirm what it might be.

Figure 9 (Top left) Portside view of Bow. (Top right) Starboard view of bow and two anchors. (Bottom left) Diver for scale, with approximately four metres of hull protruding above seafloor. (Bottom right) two Admiralty-type anchors as seen looking down the starboard side (Images: © VAM Media).

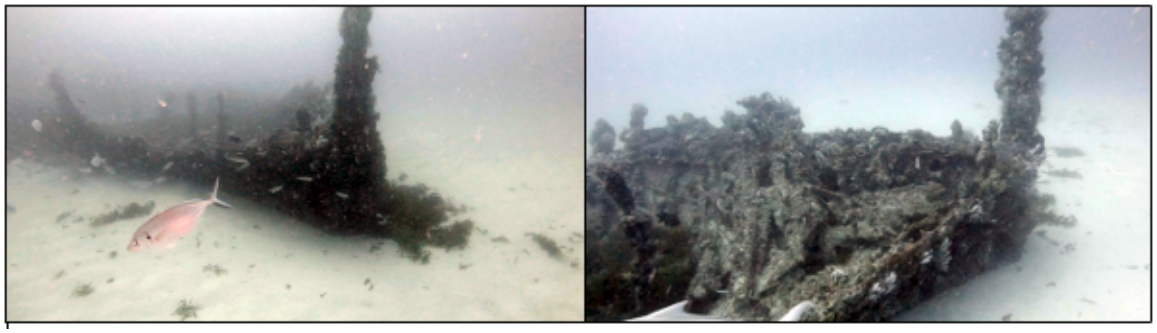

Figure 10 Stern of vessel showing sternpost and rudderpost (Images: © VAM Media).

A feature identified as the ship's intact galley stove sits amidships (Figure 11). Lines of stacked jarrah timber railway sleepers can be seen just below the surface of the sediment across this area, with a few sleepers being exposed. The sleepers lie stowed lengthways parallel to the vessel's hull, covering the entire breadth of the amidships area (Figure 12).

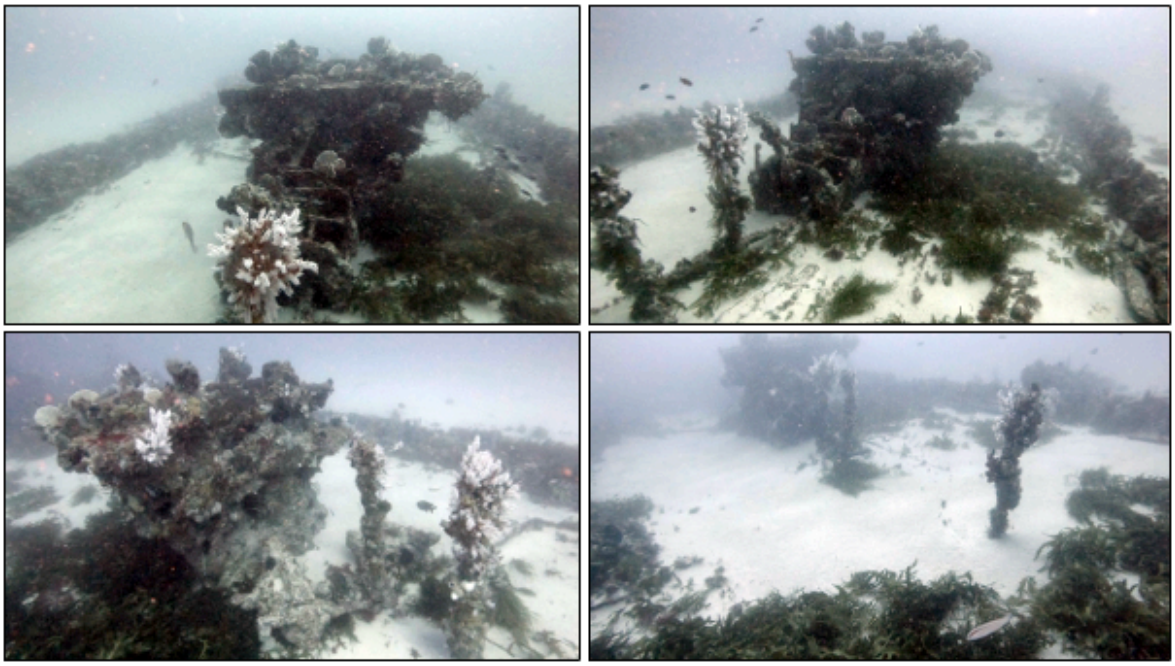

Figure 11 Images of Langstone stove sitting amidships (Images: © VAM Media).

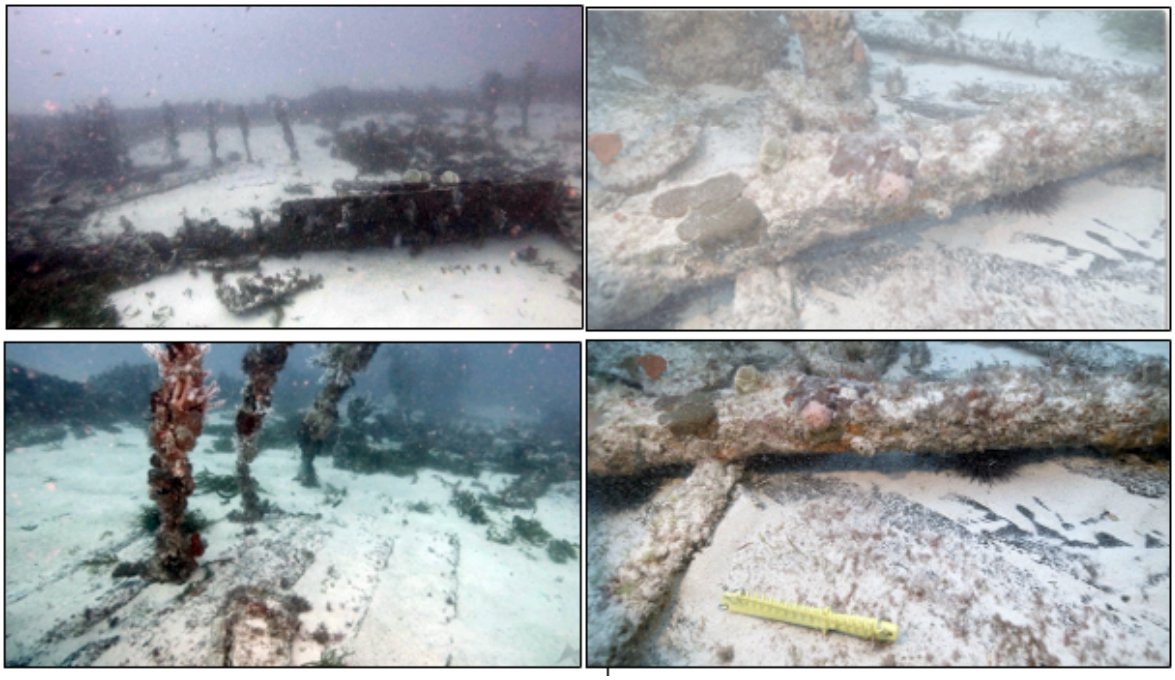

Figure 12 View of amidships area with deck stanchions and cargo of sawn timber sleepers stowed longitudinally (Images: © VAM Media).

Identification

The depth, location, vessel construction, length of the wreck, and timber cargo supports the positive identification of *Langstone*:

- The wreck is an iron sailing ship—*Langstone* is the only wreck of a large iron sailing ship recorded to have occurred in the vicinity of Naturaliste Reefs;

- The length of the wreck of approximately 55 metres is consistent with *Langstone's* registered length of 186 feet 9 inches (56 metres);
- The wreck contains a cargo of sawn timber sleepers—*Langstone* was laden with a cargo of 971 loads of timber from Millar's Jarrah and Karri Forests Ltd; and
- The wreck's depth of 45m is consistent with the crew's report of *Langstone* sinking in 23 fathoms (42m) depth.

Regarding the location, some discussion is necessary to explain the wreck's position lying four kilometres north of the Naturaliste Reef, which was a surprising finding given the reports of it sinking either immediately, or within minutes of it sliding off the reef. With its masts and rigging intact and sails still set, and with a strong SSW gale blowing, it must have blown to this location with its remaining buoyancy keeping it afloat long enough before sinking. With the crew also being blown north in difficult weather conditions, and being preoccupied with surviving and bailing their fragile boats, it would have been difficult to gauge how far they, and *Langstone* had been blown north from Naturaliste Reef. As the distance of four kilometres from Naturaliste Reef equates to 2.15 nautical miles, and following Captain Mørch's report of *Langstone* sinking twenty minutes after striking the reef, it must have been blown north in the SSW gale (34-47 knots) at a speed of about 6.5 knots (12 kmh), which is possible (Figure 13).

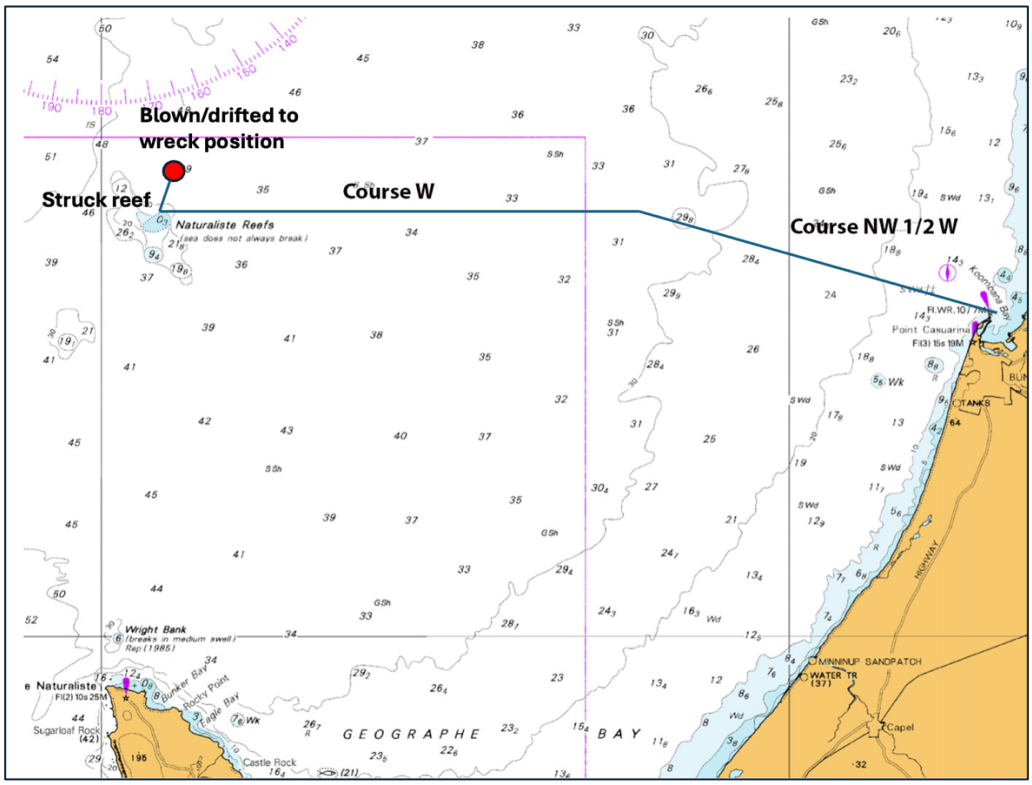

Figure 13 Reconstruction of Langstone's course and sinking event.

It would also have been important for Captain Mørch to provide the depth of sinking as the iron masts of the wreck rising about 33 metres could constitute a navigational hazard. As he reported that *Langstone* sank in 42 metres depth, this would be sufficient clearance of around nine metres for other shipping to safely pass over (most large vessels of the time had a fully laden draft of about five metres), even if they came close to the Naturaliste Reef.

Site significance

Historical

Langstone is representative of the large number of Norwegian and other foreign merchant sailing ships that travelled to southwest Western Australian timber ports, such as Bunbury, Rockingham, Busselton and Hamelin Bay to engage in the global Southwest hardwood timber trade. Prior to *Langstone*'s sinking, two other Norwegian barques had also wrecked within the previous eight months with full cargoes of jarrah timber—*Solglyt* (1901) in Koombana Bay/ Bunbury and *Gudrun* (1901) at Peron Flats in Shark Bay.

Langstone is also significant for having been Frederikstad's first iron ship, at a time when the Norwegian sailing merchant fleet was made up of predominantly wooden vessels.

Technical

The mid-19th century, iron-hulled barque epitomises advances in shipbuilding technology and materials. During the nineteenth century, vessels such as *Langstone*, played a crucial role in the evolution of maritime transport, bridging the gap between traditional wooden sailing ships and the steam-powered vessels that would dominate the seas in the 20th century. The use of iron, which provided greater durability and allowed for larger, more robust designs against the rigors of the sea, reflected the evolution of ship design and engineering technologies, providing the ability to transport larger, heavy bulk cargoes globally.

William Pile (1823-1873) was a master shipbuilder renowned for his innovative wooden and iron shipbuilding skills. His achievements included introducing the clipper class of ship to the River Wear and building the experimental composite iron and timber ship *City of Adelaide* in 1864, which still exists today in Adelaide, South Australia (*City of Adelaide* 2025). Pile's work went on to form the basis for the establishment of Lloyds' Rules for the construction of composite ships such as the *Cutty Sark* ('William Pile (shipbuilder)' 2025). Further investigation into details of *Langstone's* construction may

reveal further information about William Pile's technical designs and construction techniques for iron ships.

Archaeological

As an unsalvaged wreck, *Langstone* is archaeologically significant. Along with the visible remains of its timber cargo, the vessel also contains artefacts typical of a mid-19th to early-20th century sailing ship, along with its crew's domestic possessions. As the stem and the sternpost rise approximately 4 metres off the seafloor and *Langstone* had a depth of hold 19 feet 6 inches (5.9 metres) it indicates that approximately two metres of the hull is buried. It joins the resource of other wrecks of wooden and iron sailing ships involved in the timber trade wrecked in southwest Western Australia such as *Agincourt* (1882), *Chaudiere* (1883) and *Katinka* (1900) at Hamelin Bay.

Recreational

Lying in 45 metres depth, the *Langstone* wreck site is a new discovery within advanced recreational diving depth, and within range of diving operators based out of Port Geographe and Dunsborough. The site features good visibility, abundant marine growth and sea life attractive for advanced recreational/ technical divers and underwater photographers.

Legal Protection and Management Considerations

Being over 75 years old, *Langstone* is automatically protected under the Commonwealth *Underwater Cultural Heritage Act 2018*. Although the location and depth may be limiting factors, as a new discovery, the site is likely to be attractive to advanced recreational and technical divers. With increased publicity following the release of *Shipwreck Hunters Australia* Season 2 in August 2025, it is likely the site will be visited by both divers and fishers and there may be at risk of damage from vessel anchors.

It is recommended that the site is monitored to assess if the site is being impacted by increased visitation.

The wreck may also be at risk of adverse impacts from a nearby proposed offshore-windfarm (Figure 11). It is recommended to liaise with Commonwealth Government, to ensure proposed works will not inadvertently impact site stability.

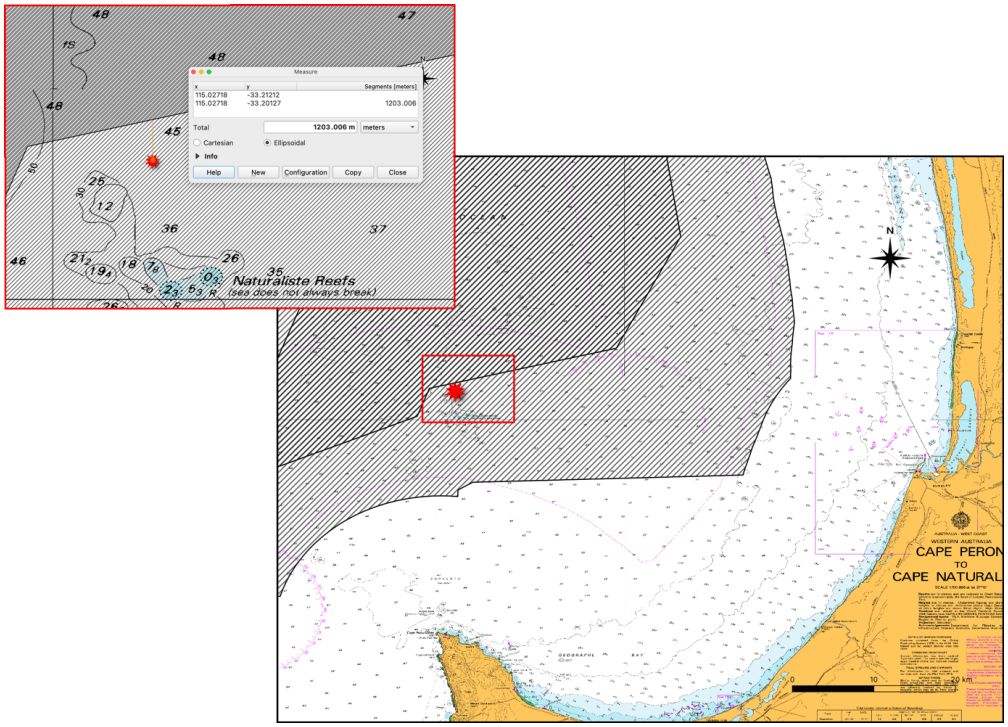

Figure 14 Location of Langstone in relation to proposed off-shore windfarm. Noting the lighter area is the original placement proposal, and the darker area is a portion of the current proposed location. Langstone is located within the boundaries of the original proposal and 1 km south of the current proposed area (WA Museum).

Recommendations

1) Further archaeological assessment should be undertaken to determine the extent of the site, to assess any areas of high archaeological potential.
2) The WA Museum should liaise with local dive charter operators to gauge interest in the site and monitor for any impacts, to inform future management strategies.

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Appendix A *Langstone* Registry, Det Norske Veritas Skibsregister 1902 No. 37

Iron and Steel Ships – Steamers and Sailers pp.230-231, translated A. Millard June 2025.

Classification No.: 9

Ship: *Langstone*

Master: Charles Mørch

Classifications:

Special survey [not stated]

Plating division and class [not stated]

Engines, boilers and equipment [not stated]

Rig, decks, erections etc.: Bk; 1 D-B; Ba 24', ½ DA 45'. [Barque, single-deck vessel, one tier of beams without laid deck, Forecastle 24 feet, Deck raised aft (as a raised quarter-deck) 45 feet]

Tonnage:

Gross 766

Under deck 715

Nett 724

Regist. Dimensions, English feet | Freeboard, English inches.

Length. 186,9

Breadth. 31

Depth. 19,6

Builders of Hull, Place, Month and Year of Construction

W. Pile & Co., Sunderland 69

Materials, Watertight Bulkheads, Tanks, Repairs etc.

J; 1V; ND. 87. [Iron, 1 Watertight Bulkhead, New Deck 1887]

Last survey of hull: [not stated]

Clubs where insured: D. [Drammens gjensidige Skibs-assuranceforening = Drammen Mutual Ship Insurance Association]

Owners: Charles B. Mørch

Port of Registry: Frs. [Fredrikstad – located in the southeast of Oslofjord, Norway]