

# Site Inspection Report

*Alex T. Brown (1903 - 1917)*

**Seasonal exposure of the coastal shipwreck site  
recorded on the 9<sup>th</sup> of September 2024**



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Heritage**

21<sup>st</sup> of October 2024



**WESTERN  
AUSTRALIAN  
MUSEUM**

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## Technical Data

**Site name:** Alex T. Brown

**Date lost:** 29th of May 1917

**Date of inspection:** 9<sup>th</sup> of September 2024

**Personnel:**

Patrick Morrison

Deb Shefi

Aurora Philpin

Arabella McLeay

**OIC:** Patrick Morrison

**Location:**

On the beach, just south of 'The Spot', Yanchep. Exposed to southwest swells, and just above high tide mark, currently eroding from the foredune (Figure 1).

**Lat:** -31.5246

**Lon:** 115.60505

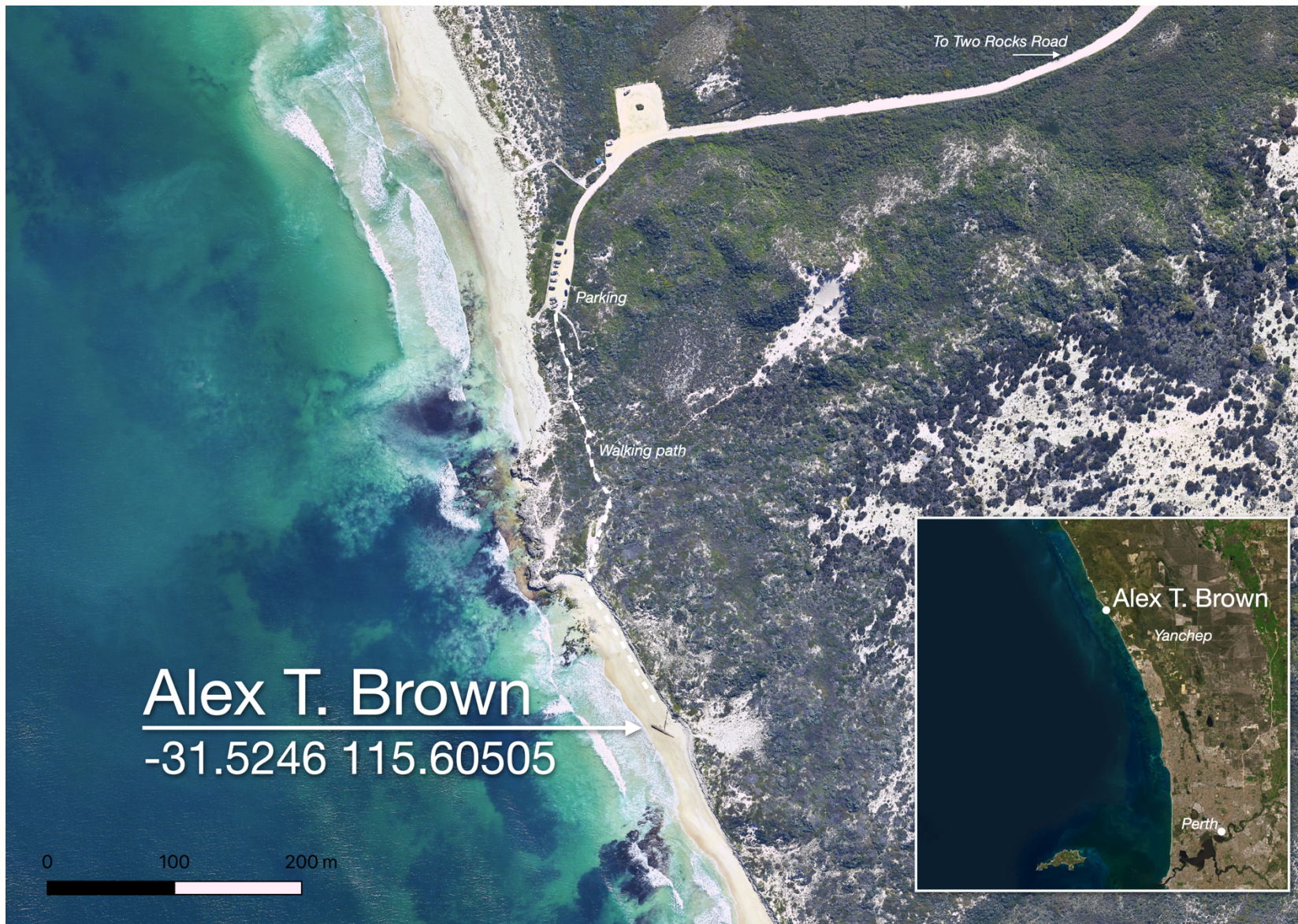
**Datum:** (WGS84)

**Site photographs and videos:**

Images located on the WA Museum server.

- 20240909 *Alex T. Brown* Wreck Inspection





**Figure 1. Location of the *Alex T. Brown* wreck site.** The site is on the beach, a short walk south of 'The Spot' in Yanchep. The wreck here seen partly exposed in the Landgate 2022 Winter mosaic. Basemap: ESRI



## Background

### Historical background

The *Alex T. Brown* was 65m wooden 4-masted schooner, wrecked on the 29<sup>th</sup> of May 1917. It was owned by the American company Pat Beakely Mill Co., and it had carried timber from Puget Sound in the USA, unloading a cargo of Oregon, redwood, yellow pine and sugar pine in Fremantle (Worsley & Green 2019). On its final voyage it was bound for Manila when it blew ashore during a gale. Despite an attempt to refloat it using the tug *Wyola*, it was unable to be salvaged and remained beached (Figure 2). In the early 20th century timbers were salvaged for buildings in Wanneroo, including the stables and men's quarters of the Lindsay Homestead. A full historical precis can be found on the WA Museum's Shipwrecks database (<https://museum.wa.gov.au/maritime-archaeology-db/wrecks/id-1244>).

The only other 4-masted schooner shipwreck in Australia is *Kermandie 1957* – which also ran ashore during storms and could not be refloated, on the northwest coast of Tasmania (Australasian Underwater Cultural Heritage Database ID: 7354, accessed 21<sup>st</sup> October 2024). It was carrying a cargo of grain. The vessel was later burnt, but some of it remains in shallow water. At 43.16 m and 340 tons, it was much smaller than the 788-ton *Alex T. Brown*.



Figure 2. 1920 image of the *Alex T. Brown* wreck, before breaking up on the beach. Image courtesy of the Wanneroo Museum.

### Modern site history

The *Alex T. Brown* is usually buried in the beach, but is seasonally exposed by winter storms. In 2018 following vandalism when timbers were chainsawed from the wreck, the City of Wanneroo and WA Museum investigated avenues for

protection of the site. Being above the low water mark the wreck could not be protected by the Commonwealth *Underwater Cultural Heritage Act 2018* and was also unable to be protected by the State *Maritime Archaeology Act 1973* that can only protect shipwrecks lost prior to 1900. The WA Museum worked with the City of Wanneroo, State Heritage Council and State Heritage Office to place the *Alex T. Brown* under a Permanent Conservation Order in 2018, which protects it from interference, removal or damage (Inherit Database, site 09525).

### **Previous inspections**

The earliest WA Museum photographs of the wreck were taken by Patrick Baker on the 27<sup>th</sup> of July 1974. On the 25<sup>th</sup> of October 1980 WA Museum Curator Mike 'Mack' McCarthy led an inspection of the site, noting seasonal exposure following winter storms, and some evidence of vandalism on the top rider keelson. The Maritime Archaeological Association of Western Australia (MAAWA) recorded the site in 1988 and published the visit up in the Maritime Archaeology Association of Western Australia Reports July-December 1988. McCarthy and team visited the site again on the 13<sup>th</sup> of August 1996, and Patrick Baker photographed the visit. Maddy McCallister led an inspection on the 21<sup>st</sup> of October 2013, which was also photographed by Patrick Baker. On the 6<sup>th</sup> of August 2021 Patrick Morrison recorded the site with using terrestrial and drone photogrammetry.

## **9<sup>th</sup> of September 2024 Inspection**

### **Description of site**

*Alex T. Brown* is a partly buried in the beach, and is seasonally exposed by the eroding foredune. The visible timbers are located just above the high tide mark, exposed to wind and ocean. The keel and frames are exposed, on a northwest/southeast direction, with what appears to be more hull timbers perpendicular midway off the north side. Many of the iron bolts are exposed, protruding above the timber and actively corroding. Fasteners noted include dump bolts, clinch bolts and treenails. There are parallel bolts per timber, but distribution is unevenly spaced. There is one exposed timber knee on the leeward side of the site.

On inspection, the sea and swell was ~1.5m.

### **Site condition and integrity**

The site was photographed and recorded photogrammetrically with a DJI Mini 3 Pro drone. Agisoft Metashape was utilised to process 189 images, resulting in a landscape-scale 3D model – recording the condition of the wreck and the surrounding coastal environment. This was aligned with previous imagery of the wreck site in 2021, in accordance with the USGS coastal photogrammetry procedure (Over 2021). The model is stored on the Museum server, and is published on Sketchfab: <https://skfb.ly/pruwO>.



27 July  
**1974**  
Patrick Baker WAM



25 October  
**1980**  
Michael McCarthy WAM



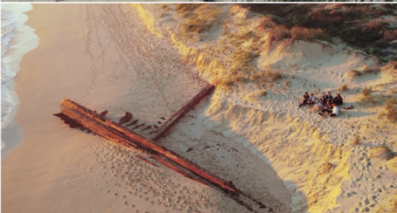
13 August  
**1996**  
Patrick Baker WAM



21 October  
**2013**  
Patrick Baker WAM



6 August  
**2021**  
Patrick Morrison WAM



9 September  
**2024**  
Patrick Morrison WAM



**Figure 3. The *Alex T. Brown* shipwreck over the last 50 years. The vessel appears stable but is seasonally exposed to the elements. There is some deterioration and loss of timbers, both naturally and due to vandalism, particularly on the seaward side.**





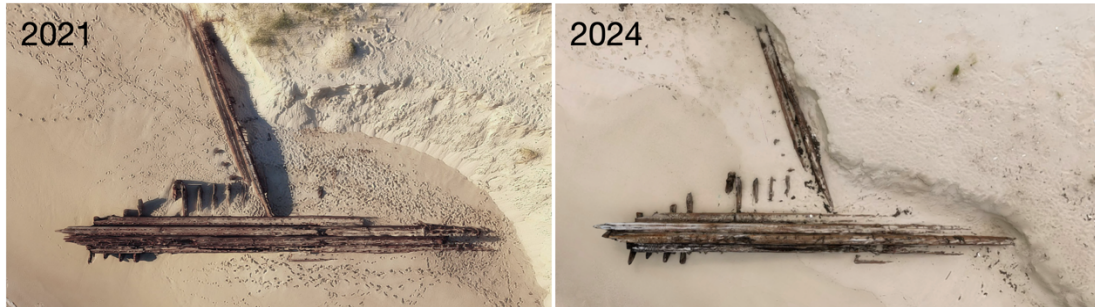
**Figure 4. Drone photogrammetry model of the *Alex T. Brown* and surrounding environment. A total of 189 images processed in Agisoft Metashape show the wreck in the context of a coastal dune system, eroding from the foredune.**

The wreck was recorded photogrammetrically in detail using a Panasonic Lumix S5ii, with 549 images reconstructing the timbers in detail. The model is stored on the Museum server, and is published on Sketchfab: <https://skfb.ly/pruuV>.



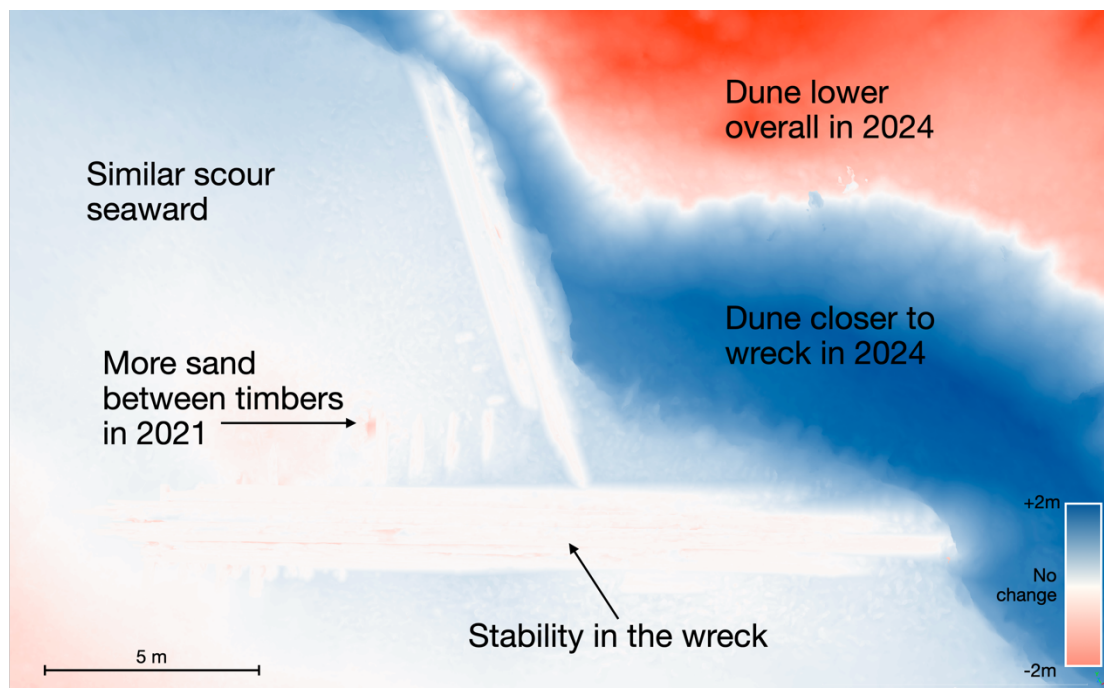
**Figure 5. 3D photogrammetry model of the *Alex T. Brown* wreck site on the 9<sup>th</sup> of September 2024. A total of 549 images were processed in Agisoft Metashape showing the condition of timbers eroding from the beach.**

The wreck is eroding from the foredune, on the coastal side of a vegetated aeolian dune system. No major deterioration is evident since the Museum's last visit to the site, apart from the vandalism reported in 2017. We also compare it to Patrick Morrison's August 2021 model of the site (Figure 6), noting no major changes (<https://skfb.ly/opnX9>).



**Figure 6. Comparison between Patrick Morrison's 2021 model of the *Alex T. Brown* wreck site, and the Museum's latest 2024 model.** No major structural changes are evident on the site over this 3-year period, and a similar pattern of coastal erosion is visible.

The 3D models were formally compared using CloudCompare, computing the distance between the 2021 mesh and the 2024 mesh, which show no changes to the timbers (Figure 7). This demonstrates that the seasonal exposure of the site does not rapidly degrade the wreck year-to-year, supporting long term observations.



**Figure 7. Formal comparison of 2021 and 2024 meshes of the *Alex T. Brown* photogrammetric models.** Red areas indicate a reduction since 2021, and blue areas indicate an increase. The dune is further collapsed in 2021, but the timbers show stability. This was computed using the CloudCompare Cloud-to-Mesh distance tool, on two 10,000,000 polygon models reconstructed in Metashape.

## Biological data

No marine growth or biodeterioration observed on site. It is generally mostly buried.

## Assessment of Site Significance

The wreck is historically significant as one of only two 4-masted schooners in Australia. It is recreationally significant as one of the most accessible wrecks in the Perth Metro area. Refer to WA Museum Shipwrecks Database, and the State Heritage database (site #: 09525).

## Management considerations

*Alex T. Brown* is protected under the State *Heritage Act 2018* ([Conservation Order 27th June 2018](#)).

- (i) Natural Forces – *Alex T. Brown* is seasonally exposed, vulnerable to swell and interference. The site, however, does not appear to be rapidly degrading.
- (ii) Present and Future Human – During the winter exposure in 2018 there were reports of vandalism on the north side of the wreck with at least one frame being cut off.
- (iii) Projected General site Stability – The structural integrity of *Alex T. Brown* remains relatively unchanged within the space of 50 years, despite seasonal exposure. The site, however, will continue to slowly degrade.

## Recommendations

Based on the site significance, as well as the management considerations for the site of *Alex T. Brown*, recommendations for the site are as follows:

1. Annual monitoring and photogrammetry recording of the *Alex T. Brown* shipwreck, in September/October following winter storms.
2. Provide a copy of this report to the City of Wanneroo and State Heritage Office.



## References

Heritage Council of Western Australia, *Alex T. Brown* (wreck site) P 09525, Inventory details:

<https://inherit.dplh.wa.gov.au/public/inventory/details/cf15487f-d77c-4d45-bb87-21503a343cd1>

Over, J.R., Ritchie, A.C., Kranenburg, C.J., Brown, J.A., Buscombe, D., Noble, T., Sherwood, C.R., Warrick, J.A. and Wernette, P.A., 2021. *Processing coastal imagery with Agisoft Metashape Professional Edition, version 1.6—Structure from motion workflow documentation*. Open-File Report 2021-1039. U.S. Geological Survey, Reston, VA. Available at: <https://doi.org/10.3133/ofr20211039> [Accessed 1 October 2024].

Worsley, P. and Green, J., 2019. *Sail, Steam, and Storms: Western Australia's Maritime Heritage between the Moore River & the Peel Inlet*. Special Publication No. 21, Australian National Centre of Excellence for Maritime Archaeology, Department of Maritime Archaeology, Western Australian Museum. Available at: <https://museum.wa.gov.au/maritime-archaeology-db/maritime-reports/sail-steam-and-storms>