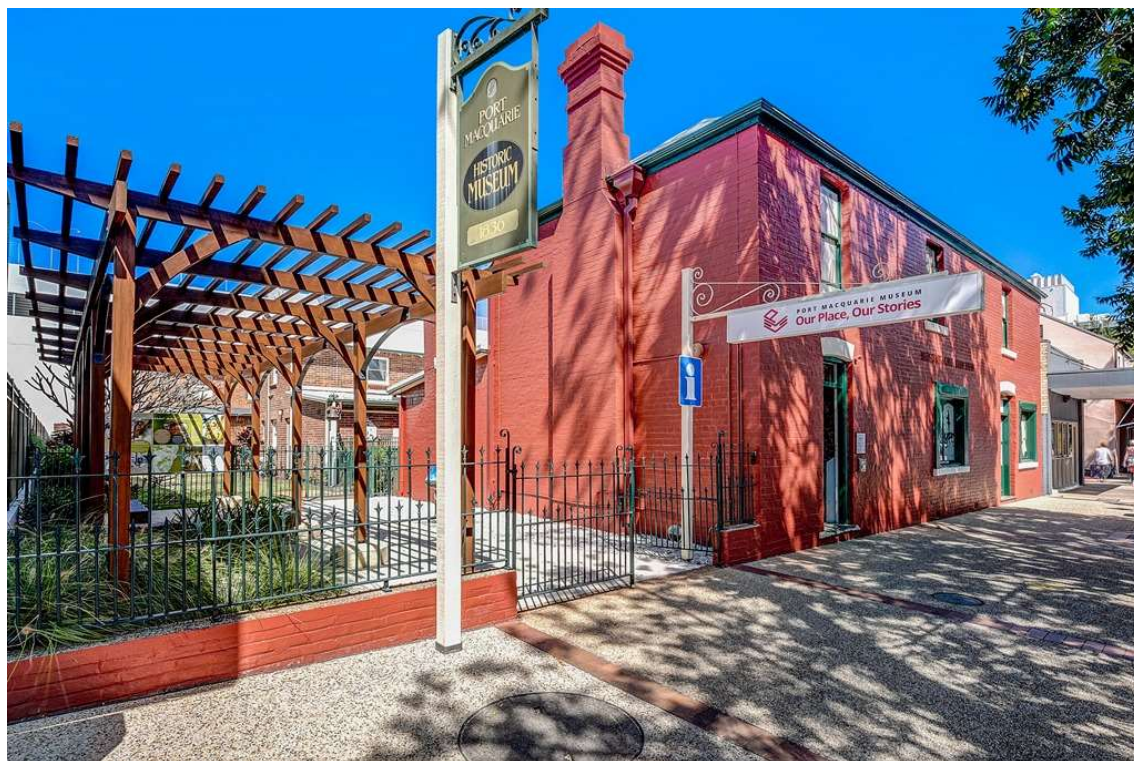


Port Macquarie Museum Maritime Collection Preservation Needs Assessment



Report prepared by
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Executive summary

The Port Macquarie Museum is an independent community museum which collects, preserves, and shares local cultural collections and their stories about Port Macquarie.

The museum has a vibrant and dedicated group of some sixty volunteers. They have worked to create an interesting and accessible museum, which is reflected in healthy visitor numbers. They have proactively sought to enhance the exhibition spaces and to catalogue, rehouse and digitise their collections.

It must be said, however, that the size of the collection currently exceeds the museum's capacity to store it. The Strategic Plan notes the intention of the museum to transform the current building into a best practice regional museum and there is much merit in this idea.

This Preservation Needs Assessment details the needs of the museum's Maritime Collection. Whilst many of the issues can be compared across the entire museum, not all exhibition areas are covered in-depth in this report. The limitations of the storage area, however, transcend the confines of the maritime collection.

Given the limitations of the current storage area, good preservation housing of the Maritime collection should be prioritised, both on exhibition and in storage.

There are three main recommendations following the assessment, they are to:

1. Purchase new display case/s to replace the current Maritime collection exhibition furniture
2. Rehouse the Maritime collection items in storage with conservation standard housing materials and undertake conservation treatments on those most in need
3. Find additional space for object storage within the museum complex and/or seek off-site storage

Key issues required to carry out the recommendations include:

1. Consideration of requirements for new display case and funds to undertake purchase. Volunteers to help remove and reinstall display.
2. Funds to undertake conservation treatment and rehousing of Maritime collection items
3. Capacity to fund significant capital infrastructure requirements for new collection storage facility.

1. Key recommendations

Below is a summary of the key recommendations of this report. Short term recommendations should be considered for further action within twelve months, medium within three years and long term within five years.

Short term recommendations:

1. Continue to proactively deaccession collection items that do not fit with the Collection Policy (Section 6.1)
2. Rehouse Maritime Collection items currently in storage in appropriate, archival quality housing (Section 6.1)
3. Find alternate storage for exhibition props and other non-collection material currently housed in the collection storage area (Section 6.1)
4. Articulate digitisation standards for the museum and archive in a digitisation policy (Section 2)
5. Create a Conservation Management Plan for the Collection (Section 2)
6. Engage a metals conservator to come to consider the specific needs of the metal objects in the museum collection display and storage (Sections 6, 7.1).

Medium term recommendations:

1. Purchase a new display case for the Maritime Collection (Section 7.2)
2. Seek funding for conservation treatments for items acknowledged as at risk (Section 3.4)
3. Provide training for volunteers responsible for care of the metals collection (Section 11)

Long term recommendations:

1. Develop a new collection store (in support [PMM Strategic Plan](#); PNA Sections 4,7,8)

2. Policies

The Port Macquarie Museum has a number of policies to help manage their collection and building. They have a good Collection Policy (update Nov 2019), that clearly defines their collection and a Strategic Plan (2020-2024) detailing the museum's organisational goals. There is a recognised need to deaccession some items in the collection and the Collection Policy has a clearly defined methodology which is being used by collection staff.

The museum has a Conservation Management Plan created for the heritage component of the building complex, completed in 2018. The museum recognises that they lack a collection Conservation Policy, and this being actively considered. The current Preservation Needs Assessment is focused on the Maritime Collection; however, a holistic all-of-collection approach is recommended for the Conservation Policy. Integrated Pest Management should be an integral part of the plan. Excellent resources on creating a Collection Preservation Policy can be found at [WA museum](#) website and the [Museums Australia](#) (Victoria).

The museum has an excellent Disaster Management Plan (last updated October 2020), which includes risk assessments and a targeted action plan for their collection. There are collection priority lists by location with clear finding guides. The disaster response team and volunteer list are impressive and show great engagement within the community.

Whilst the museum has an active digitisation program being undertaken by their experienced archivist, it would benefit from a succession planning point of view to have a digitisation policy and/or written standards to support the program into the future.

3. Collection

3.1 Description

The collection is large, comprising an estimated 20,000 objects including wooden, metal, glass, ceramics, leather, and stone items, approximately 3,000 costume and textile items, and more than 100,000 photographs and 5,000 documents.

The Port Macquarie Museum's collection includes First Nation artefacts, firearms, domestic objects of all descriptions including furniture, costumes, textiles and crafts, technical and mechanical objects, military items, maritime items, books, photographs, ephemera, documents, archives and artworks.

Less than 10% of the collection is on display at any time; the majority is kept in storage. The museum has a dynamic exhibition program with 2-3 exhibition changes a year, linked to local events and history week.

3.2 The Maritime Collection

This Preservation Needs Assessment has a particular focus: that of the Port Macquarie Museum's Maritime Collection. The Port Macquarie Museum's Maritime collection includes numerous items associated with Australia's maritime history. The maritime collection is described by the museum as "historically significant for its association with important events and themes such as trade and commerce, sport and recreation, colonisation and exploration, defending the nation, commemorating significant events, immigration and coastal travel and tourism".

A subset of the maritime collection is on current display in a large cabinet in the South Gallery thematically described as "All Afloat" (see [Appendix 1](#), Plan 1, and [Image 1](#)). The rest of the maritime collection is in the main storage scattered throughout the store depending on material type and size.

Port Macquarie Museum are actively digitising their collection and making their objects, archives and photographs openly available on [eHive](#). Some of the Maritime collection items are available to view there. Links to the eHive record can be found on individual item object assessments when available.

3.3 Condition

There is a wide range of material in the maritime collection including works on paper, photographs, wooden oars, sailmaker's needles, paintings, badges, lanterns, ship models, ceramics, and some historic ship components from historic wrecks in the area.

Most of the maritime collection is in sound condition, however, some items are vulnerable and required assessment to inform their ongoing care and management. Brief object assessments for these items may be found in [Appendix 5](#). A summary of need is presented below in Section 3.4. Some materials on current display were unable to be removed for closer viewing. These have "Currently on display" in the object field below.

3.4 Object Assessment Overview

Object	Material Type	Priority	Requirements
<i>SS Wollongbar</i> – currently on display (#2446)	Oil Painting on board	1	Stabilisation of torn top left corner, Add conservation rag board mount and Foamcore. Frame may require rebate extension.
<i>The Embarkation of the NSW Troops for Suakim</i> , Anthony Horden & Sons, Calendar 1886. Chromolithograph (#791)	Paper, lithographic inks, decorative frame	1	Backing removal, consolidation of frame, new mount. Polyester encapsulation for original backings.
<i>Flagstaff Hill, Pt Macquarie</i> (2014.80)	Hand-coloured photograph	1	Backing removal and rehousing
<i>Of Rio Janerio Brezeils</i> by George Herman Bruhn; c1847 (#167/W)	Watercolour painting	1	Clean, tear repair and mount ready to exhibit. Store in solander box
Plan of Attack off Cocos Islands 9 th Nov 14 - <i>S.S. Buresk</i> (2015.18)	Crayon and graphite on acidic wove paper	1	Backing removal, tear repair, mount in conservation grade materials. Store in Solander box.
Square Rig Jumper – Able Seaman Les Perks (#2865)	Cotton	1	Conservation Treatment and rehousing in textile box
Jantzen Swimsuit (2000.58)	Nylon	1	Wrap in acid-free tissue and rehouse in textile box
Wooden Oars – NSNC (#2090a & b)	Painted wood	2	Conservation Treatment and Perspex box to double as exhibition case and storage
Schooner: <i>The Korora</i> – currently on display (#P458)	Silver gelatin photograph	2	Add conservation rag board mount and Foamcore. Frame may require rebate extension.
Logbook – Unofficial (#968221)	Paper, board, book cloth & leather	2	Rehousing and book cradle recommended for exhibition

Object	Material Type	Priority	Requirements
Cabin Chair from Ben Boyd's <i>Wanderer</i> (1840s) – currently on display	Wood & painted canvas	2	Conservation treatment to stabilise wood and conserve upholstery
<i>Camden Haven from the Lake House</i> (#4911)	Ink & Graphite work on paper	2	Stain reduction and rehousing
Two sailboats (#153D)	Graphite work on paper	2	Backing removal, wash and repair. Mount ready to exhibit. Store in solander box.

3.5 Handling

Staff are aware of appropriate handling techniques. There is a risk associated with collection movements due to the nature of the building. The exhibition spaces are on the ground floor, while all storage and exhibition preparation areas are on Level One. The only way to move collection items between floors is via the staircase, composed of two straight flights connected by a landing at 90 degrees. Usually, it would be recommended to use trolleys to transport collection material safely, but this is not practical due to the stairs. Smaller items may be transported in a plastic tray or flat, sturdy box if considered safe to do so.

4. Building (repository structure)

The museum building fronts on to Clarence Street and was constructed in the early 1830s, originally as a store and residence. The Port Macquarie Historical Society owns the sites and collections. They have operated from the current site as a local history museum since 1960. The Museum site is a complex of inter-connected buildings, the footprint of which extends from north to south within the property boundary¹ (see Plans in [Appendix One](#)).

The street façade has a heritage overlay and is recognised as a site of State Heritage Significance. The architectural style of the original building is Old Colonial Georgian. It is a two-storey building of painted brick construction (hand-made bricks) with a corrugated iron roof having been laid over the original shingles. Ceilings and upstairs internal walls of the original building are boarded.

The first floor of the original Georgian building museum is currently closed to visitor access. The Society is awaiting an engineer's report regarding it and consequently, this area has not been included in the current assessment.

Three additions to the original heritage building have been undertaken since the museum opened. In October 1968, an extension incorporating the 'Arcade of Shops' and 'Costume Gallery' was opened followed by the back-gallery museum extension in March 1977. The Howell Room was added in March 1988 and an awning between the Costume and back

¹ https://www.port-macquarie-historical-museum.org.au/reports/PMM_ConsMgmtPlan_2018_FINAL_for_endorsement.pdf. p.4 & 21

galleries was added in September 2009 to protect the historic sugar crushing mill installed there².

The extensions on Level One house the museum admin office, archives and digitisation centre, work room, kitchen, historical society library, meeting room and museum storage area. The ground floor extensions are used for museum display. Access between the two levels is via an internal staircase.

The additions are also constructed of brick and have cement and wooden floors that are carpeted. The extension from 1968 appears to have polystyrene ceilings which has been damaged by lighting and water in the past (see [Image 12](#)). There are wooden and glass sash windows and wooden doors throughout. The archive and administrative areas are air-conditioned.

The building does provide a level of insulation to the external environmental fluctuations. The brick walls and cement floors restrict rapid changes in the internal environment. However, due to the nature of the extensions there are areas that are more susceptible to environmental fluctuation. There are five external doors that open directly into exhibition spaces, including the room that holds much of the Maritime collection, and this may cause fluctuations in these areas. Significant items should be displayed bearing this in mind.

That said, there has been careful consideration given to maximising effectiveness of current building structure and minimising deficits. Most exhibition items are behind glass in exhibition cases and during visitor hours doors between sections are kept open to allow air flow and wheelchair access to collections. This air flow comes, however, at a cost to insect ingress. These things are managed as best as possible in an imperfect building.

There is an issue with insects in the exhibition spaces. Many cabinets showed some evidence of insect visitation, including but not limited to spiders, flies, and some flying ants. The wall adjacent to the door between the Arcade of Shops and the walkway to the Cottage kitchen has a small number of wasp nests between the brick work and wall panelling. The exhibition furniture is aging and is, in many areas, a permanent extension of the building structure. This limits what is achievable for exhibition design and display.

There is evidence of prior water damage in the exhibition ceilings in the Tank Room and Arcade of Shops, though no current leaks were noted and there was no evidence of water damage to displayed items.

The building is accessed by the front door from Clarence Street. Doors are security key-locked with a sensor movement detector alarm system that is activated when the building is unattended. The alarm is linked to a security company that calls the relevant staff when activated, or if the alarm is not set after the museum has closed for the evening.

The museum has both fire detection systems and fire extinguishers throughout the building complex. These are easily locatable and there are excellent maps throughout the exhibition, administrative and storage areas showing the location of all alarms, fire extinguishers and emergency exits.

² https://www.port-macquarie-historical-museum.org.au/reports/PMM_ConsMgmtPlan_2018_FINAL_for_endorsement.pdf, p.20

One final note with regards to collection movements within the building: there is a small but real WHS risk to volunteers. All exhibition areas are downstairs, while all storage areas are on the first floor. Items moving in and out of storage for use in exhibitions need to be carried up and down two flights of stairs, as there is no elevator to safely move collection materials between floors.

The author notes that the museum is considering a major building project to replace the non-heritage listed building with a fit-for-purpose multi-storey structure. Renewal of these exhibition spaces would have significant benefits to the collection.

4.1 Recommendations

- Data loggers be purchased for two of the exhibition areas (e.g. one in the Maritime case in the South Gallery, and one in the main display case in the Costumes Gallery) to obtain an idea of seasonal variations for environmental conditions.
- Insect traps be used to monitor insect activity. Regular cleaning of the interior of the display cases, where possible, to remove insect carcasses.

5. Environment

5.1 Temperature and relative humidity

Two locations within the museum complex had dataloggers installed for two weeks to record changes in temperature and relative humidity. The first was in the main museum storage room on Level One; the second in the Maritime Collection display case in the South Gallery. Graphs of the results may be found in [Appendix Two](#).

Temperature was shown to be steady, with minimal fluctuations over the course of any twenty-four-hour period. The average temperature in the Maritime Display case was 20.1°C. The lowest temperature during the two weeks was 18.5°C and the highest 21.4°C with minimal fluctuations over the course of a day.

In the museum storage area, the average temperature was 20.4°C. The lowest temperature was 18.2°C and the highest 22.8°C, while the range of temperatures was higher and fluctuations slightly larger than in the exhibition spaces, both the range and fluctuations were well within reasonable limits.

Comparison with Bureau of Meteorology data for [Port Macquarie](#) for the same time period, show that the museum building is buffering outside environmental conditions effectively.

Relative humidity was consistently above 60% in both collection areas, which is not surprising given the time of year, the non-climate-controlled collection and storage areas, and the coastal location of Port Macquarie. Of some concern is the high humidity in the Maritime Gallery space, which at times was above 70% RH. This is problematic for metals, as corrosion can occur about 65%RH through adsorbed water on the surface of the object. Likewise, such high RH is not ideal for textiles, nor photographic material on display.

Ideally, the exhibition case would act as an environmental buffer for the objects, however, the cabinet is not acting sufficiently robustly to moderate the changes in RH. Regular monitoring of displayed collection items, particularly metals, textiles and photographic material is recommended.

5.2 Lighting and UV

The lighting throughout the building is a mix of natural light, halogen, fluorescent and some LED. The PMHM has installed sensor lights to moderate and control light levels throughout the exhibition spaces.

The Maritime Collection has a single fluorescent tube lighting within the cabinet and has some indirect light from the heavy wooden rail doors that open directly onto the southern courtyard. Spot measurements taken inside the cabinet can be found [here](#). There are no window coverings over the sash windows in the Southern Gallery, however, they face the enclosed southern courtyard, which has had a transparent annex roof added, and there is little direct sunlight in this corner of the gallery space.

There are sensor lights in the gallery spaces, and this helps to moderate light damage to the display. That said, replacing the interior cabinet light with an LED is recommended. LEDs have considerably less UV and IR radiation, and can be considered safer in comparison to other light sources, particularly with the new generation of warm white LEDs³.

6. Storage

The collections are stored in the most recent addition of the building, on the first floor (see [Appendix 1](#), Plan 2). There are three main storage areas, the Archive, Museum storage and the costume/workroom area. There are a small number of items held in the downstairs workshop storage area and in the museum admin office. There is a range of storage furniture, including three clothes rails for the textiles collection, coated metal shelving, a wooden rack for framed artworks and three sets of wooden drawers.

There are also a locked glass-fronted cabinet and some locked cabinets for restricted access in the Archives room. The Archives room is tidy, and items are in archive boxes.

The main storage area is a work in progress. It is obvious that the museum values good storage and preservation housing and are proactively rehousing material as time and funding permits. The shelves are clearly numbered, and many items are boxed. There are portions of the textile collection rehoused with tissue and blue corrugated board textile boxes, and some works on paper are appropriately stored flat in solander boxes (see [Images 4-6](#)).

There is currently about 170 metres of metal shelving in the main storage room, and an additional 55 metres of shelving for rehoused textiles and works on paper in the upstairs workroom. However, there is insufficient storage for the size of the collection. The museum storage is very overcrowded. The space between some bays is less than 50cm wide, which is much too narrow - less than 70cm is not recommended and 90cm is recommended (see [Image 10](#)). There are also collection items on the floor in between shelving and there are boxes stacked up against some walls (See [Image 7-9](#)).

There are also non-collection items stored in this area, sometimes on the floor in boxes, which increases the crowding and poses a trip hazard. It is recommended that all items that are props or cleaning products be removed and stored in the work area downstairs.

3

http://www.magsq.com.au/_dbase_upl/APracticalGuideforSustainableClimateControlandLightinginMuseumsandGalleriesRevisionFinalsm.pdf

Another significant issue is the lack of air circulation given the relatively high humidity in the storage area consistently (between 60-69%). Mould is an issue with the textile collection, where items are stored on hangers tightly packed and in an area with minimal air circulation. It is recommended that the museum consider ways to increase air circulation in the collection storage area.

Metals are also stored on open shelves, and this is not ideal given the current environmental conditions. Above 65% RH, there is enough adsorbed water on most clean metal surfaces to approach the behaviour of bulk water and therefore create an electrolyte that will support the corrosion process. The RH in this storage area can often range between 65 and 70% RH (see [Appendix 2](#)). To the extent possible, metal objects should be housed to reduce exposure to environmental fluctuations. Simple steps can greatly improve the longevity of metal objects including wrapping objects in unbuffered, acid-free tissue and placing them in archival boxes on the metal shelving.

To summarise, there are a few key risks with the storage area:

- Overcrowding in the storage area with some collection items and boxes stored directly on the floor
- Trip hazards leading to potentially serious WHS incidents and / or collection damage
- Difficulty in finding items due to overcrowding
- Mould outbreaks in textile storage due to lack of air circulation and overcrowding in the current hanging storage system (those in boxed storage are fine)
- Potential corrosion issues with metal objects in higher than optimal humidity

The Maritime Collection is a small subset of the museum's collection. While there will be space to rehouse this small number of items to a conservation standard, the lack of storage space generally will impact the capacity for the PMHM staff to effectively carry out these recommendations on the broader collection. This lack of storage space remains a serious risk to the long-term health of the collection.

6.1 Recommendations

- All significant textiles from the Maritime collection should be rehoused into boxes and interleaved with tissue to minimise likelihood of damage from environmental conditions.
- Significant metal items should likewise be stored wrapped in unbuffered acid-free tissue and stored in corrugated blue boxes.
- Works on paper can be stored either in polypropylene enclosures or exhibition ready mounts within solander boxes
- Non-collection items should be removed from the main storage area and stored in the workroom or in another off-site location
- Deaccessioning work should continue to help manage storage spaces
- Internal windows in the museum store and textiles store could be replaced with screens to encourage air exchange through the store

7. Display/exhibitions

Most of the expansive ground floor is currently given over to exhibition. The Foundation Room is a permanent exhibition, but there is an active exhibition schedule in other areas of the museum. The current [Bicentenary Exhibition Trail](#) was created in 2021 to move visitors through the collection and follows the history of Port Macquarie over time and through thematic links. The museum is very conscious of COVID requirements and have settled on a set route through the museum as the best way to incorporate visitor and collection safety. This is highlighted with large striped directional arrows on the floor.

There is a wide range of exhibition furniture within the museum, some custom made in the museum workshop and others that have been newly purchased. There are some access issues with some of the older exhibition furniture in the Arcade of Shops for example, which are difficult to access for exhibition changeovers. As mentioned previously, much of the exhibition furniture is aging and, in many areas, is a permanent extension of the building structure (see [Image 13](#)). This limits what can be achieved in exhibition design and layout.

7.1 The Maritime Exhibition Space

This Preservation Needs Assessment focused on the main display case currently exhibiting items from the Maritime Collection. This display is in the South Gallery adjacent to the south courtyard, and next to an external door (See [Appendix 1](#) , Plan 1 and [Images 1-3](#)) and the display case fills floor to ceiling along the wall partition there.

The case is long and narrow, with the entrance to the space being an outward swinging door on the narrow end. The viewing window consists of a wooden frame with thin untempered glazing. Moving items in and out of the display case is difficult and accessing items at the far end, once the display is in, is almost impossible without moving out most of the other items. The case is not airtight, and there are spaces for insects to enter under the door, and there are insect carcasses on the base. Note that volunteers cannot safely enter the case to remove these while there are items are on display as there is no room to safely manoeuvre to the end of the display case to clean. They must wait to clean at the end of the exhibition period. There is a real WHS risk to exhibition volunteers if they were to stumble while moving through the display space, they could fall through the glass and seriously injure themselves.

Items are securely placed within the cabinet. The silver, iron pegs, ship's model and badges are well displayed on glass shelves. The telescope is securely attached to the wall and well-supported.

A datalogger was placed in the display case for two weeks (see [Appendix 2](#)). The temperature variation within the display case is well within acceptable parameters, however, there are some wider fluctuations in RH exhibited within the case. Levels peaked over 70% RH one some days which is not ideal for the metals on display, and there are risks associated with some of the larger fluctuations in RH for the long-term display for the photographs, chair upholstery, badges, and bullock horn.

Lighting within the case it from a single fluorescent tube, situated on the wooden span above the display glass. Spot readings were taken inside the display case:

- | | | |
|---------------------------------------|---------|------------------------------|
| 1. Framed Photograph: Schooner (1917) | 160 lux | Closest item to light source |
| 2. Bullock Horn | 70 lux | |
| 3. Framed Photograph: Annual regatta | 120 lux | Hung on the entrance door |

Note that light readings could only be taken near items that could be safely accessed.

7.2 Recommendations

- It is recommended that the museum seek funding to obtain new display case/s, one where environmental conditions can be maintained, LED lights can be installed within the display case, and where changeovers can be undertaken with minimal risk to volunteers.
- In the interim, self-indicating silica gel could be placed in the display case to help reduce humidity levels.
- All framed works have original mounts replaced with rag board (unbuffered for photographic works) – note individual object recommendations can be found in [Appendix 5](#).
- Conservation work should be undertaken to conserve the cabin chair from Ben Boyd's schooner.
- A metal conservator should assess the metal exhibition items upon removal from current display

8. Housekeeping

The Port Macquarie Museum volunteers have a cleaning schedule for museum areas. Cleaning methods and equipment seem appropriate, for example, vacuuming of exhibition thoroughfares. Most of the exhibited objects are behind glass so the main cleaning of display cases occurs during changeover, after outgoing exhibition objects are removed, as many of the older cases and cabinets are difficult to access with objects in them.

COVID saw some major changes to the way the museum operated. The museum committee and volunteers have taken their COVID collection responsibilities very seriously and have implemented efficient signing in processes, cleaning schedules and exhibition streamlining to accommodate government requirements. Exhibition furniture, rails and doorknobs are now wiped down daily with water and detergent. Those items that are not exhibited behind glass and cannot be safely cleaned in this manner (for example the piano on display), have had "do not touch" signs placed on them to discourage visitors contaminating surfaces.

IPM monitoring is listed as one of the risk management strategies in the Disaster Preparedness action plan. There were no insect traps for monitoring noted in the storage areas, this is recommended to aid in monitoring. There are insects visible in display cabinets and these should be attended to regularly if safely accessible, and at the changeover of each exhibition if not. It is recommended that some traps be added just inside the door of the maritime display case to monitor insect activity in the coming months.

9. Visitor impact

Visitor numbers for the 2019 Calendar year were 10 663, excluding online audiences, an average of about 30 people a day. Public program and other events, mostly offering free admission, represent about a third of the museums' visitor numbers. Three quarters of

visitors are visitors to Port Macquarie. There is an active engagement with local schools as well.

There is no evidence that visitation is causing significant wear and tear to the collection or to the building fabric. Exhibits, for the most part, are behind glass and visitors are carefully guided through the exhibition spaces. Exhibition areas are well cared for and in good condition.

10. Disaster preparedness

Port Macquarie Museum has a comprehensive disaster management plan. It has clearly articulated risks to their collection and considers counter measures to ameliorate these. There are floor plans and fire extinguishers throughout the museum and exits are clearly marked with exit signs. There is a disaster contact list.

It is recommended that volunteers undertake an annual refresher training course. This may be a group reading of the current disaster plan with a walk around the collection and discussions regarding any known and new issues. The museum may wish to consider some practical recovery training for volunteers as well. All new volunteers should have a induction that covers disaster preparedness.

It is recommended that the museum follow the recommendations for ongoing monitoring of the building as per 2018 Conservation Management Plan.

11. Training needs / skills assessment

Staff are aware of preventive measures for the collection, e.g. lights in the exhibition area are on timer switches, lights in the storage area are turned off when there are no volunteers actively engaged in the area, volunteers create airflow through collection and storage areas when possible, volunteers wear gloves when appropriate, cleaning is regular and the exhibition thoroughfares easy to navigate. Items undergoing cataloguing are also prepared for storage to the best of the museum's capacity and in keeping with the Collection Policy. The museum's impressive COVID response shows that this is a museum that is change ready and innovative.

There are volunteers who participate actively in training arranged by state and federal GLAM bodies both inhouse and externally. The museum Management Committee clearly value their volunteers and strive to improve their collections and their knowledge of collections care.

There is a significant metal collection in the storage area and there are metal objects in the Maritime Collection. Given the high relative humidity of the collection and storage spaces, it is recommended that the museum consider training on collections care specifically relating to metals in order that they may be vigilant and informed on monitoring this part of the collection.

It must be said that the museum collection is in excellent hands. Previous performance has shown the Port Macquarie Museum to be a proactive and committed community organisation who works to continually improve their collection. They are willing to search for grants that can help finance the work that needs to be done, and are prepared and able, to provide volunteer support as required.

I have no doubt that the Port Macquarie Museum, would have the ability, through volunteer support, fundraising and grant applications, to implement the recommendations of this survey, and that they would do this to a high standard.

12. Prioritised recommendations

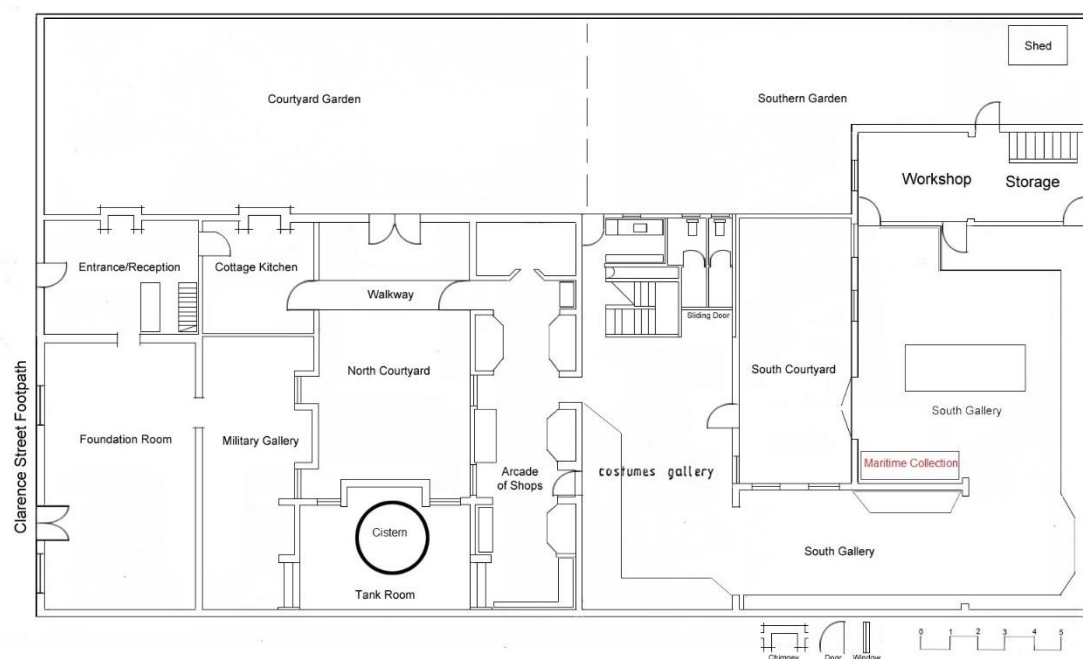
Recommendation	Priority	Resources
Short term		
Upgrade housing materials for Maritime Collection items	1	Funds to purchase archival materials and supplies Personnel to undertake work
New display case/s for the maritime collection	1	Measure and quote to size and specification Funds to purchase new display case/s
Environmental Monitoring: Purchase two data loggers and self-indicating silica gel for displays	1	Funds to purchase equipment Volunteers to monitor silica gel and replace as necessary Volunteers trained to collect and report on data
Insect traps	1	Funds to purchase traps Volunteers to monitor and report
Conservation Policy	1	Volunteer to research and write the policy
Metals conservator to consider broad strategies for metals collection	2	Funds to pay for consultant
Conserve Priority 1 items from Object Assessment Overview	2	Funds to commission conservators to undertake treatments
Medium term		
Training for volunteers in preservation of metals	1	Funds to commission trainer or funding for museum representative to attend training elsewhere
Conserve Priority 2 items from Object Assessment Overview	1	Funds to commission conservators to undertake treatments
Digitisation Policy	1	Volunteer to research and write the policy
Long term		
New building	1	Funding to implement the planned redevelopment Collection manager to plan collection movements and interim storage

13. Authorship

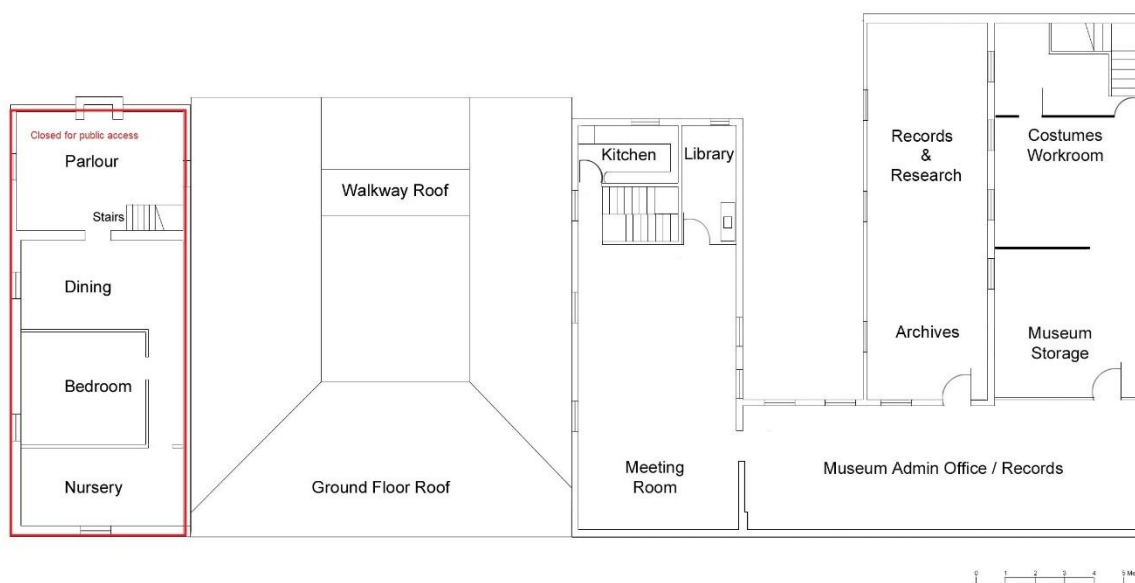
This report was written by Julie McCarthy, Conservator in private practice [ABN 37 384 439 469]. She is a professional member of the AICCM.

Appendix One: Port Macquarie Museum Floor Plans

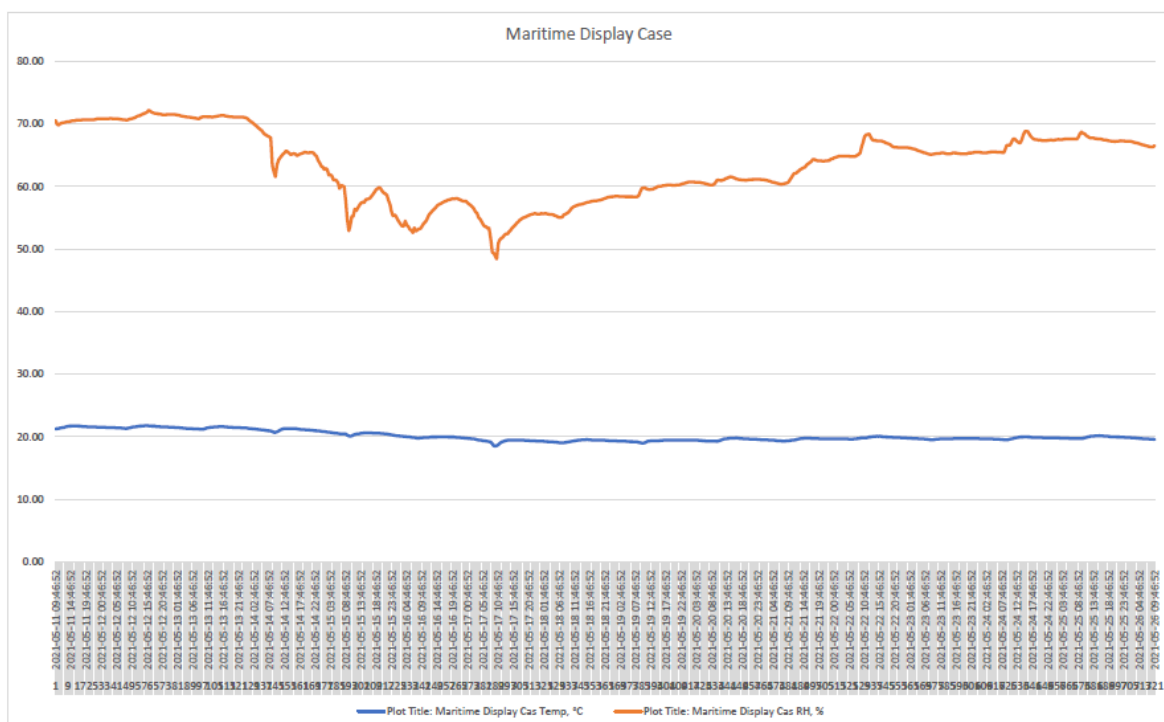
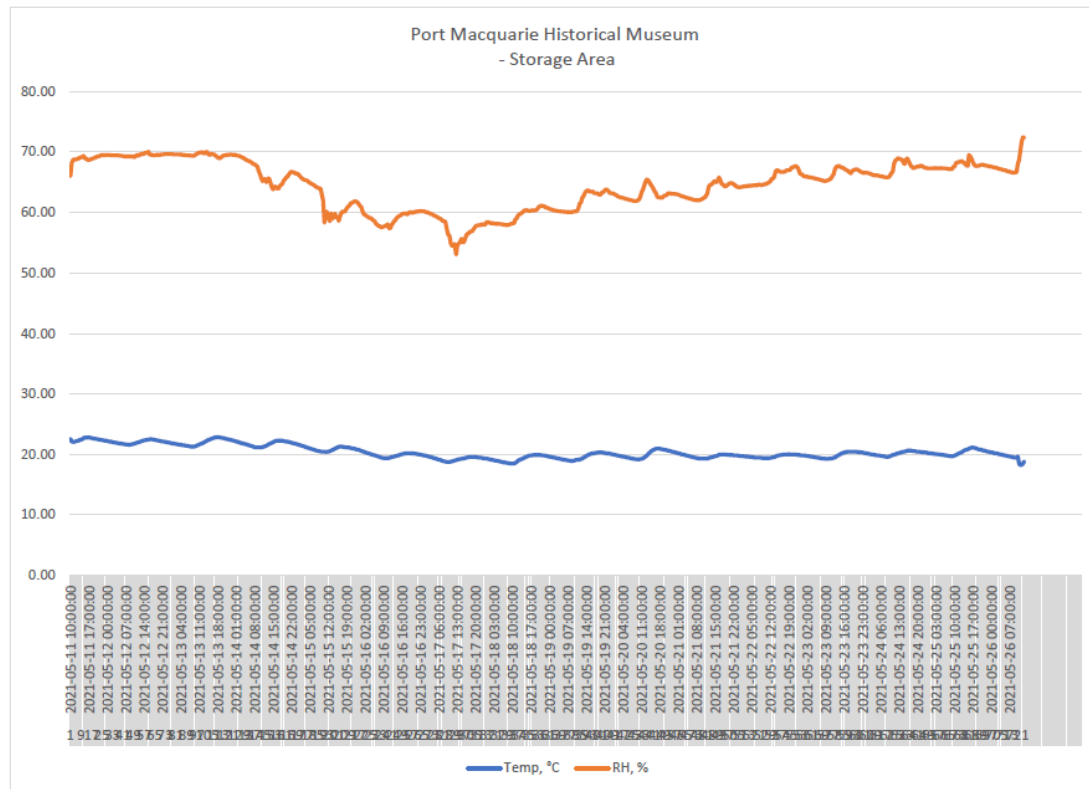
Ground Floor



Level One



Appendix Two: Temperature and Relative Humidity Graphs



Appendix 3: Photographs



Image 1: Objects from the Maritime Collection on current display



Image 2: Maritime Display case interior view



Image 3: Maritime Display Case view to South Courtyard.



Image 4 & 5: Museum Storage Furniture



Image 6: Costumes Workroom / Storage



Images 7 & 8 Museum Storage area



Images 9 & 10: Museum Storage shelving



Images 11: Museum Storage



Image 12: Display in the Arcade of Shops



Image 13: Fixed display cabinets in the Arcade of Shops

Appendix 4: Materials List

Dataloggers

<p>Hobo data logger MX1101</p> <p>Current price \$290 ex GST (\$319 with GST) per unit.</p>	<p>Small, easily transportable devices. Free iOS or Android app is available to download data from the devices. Simple to use. At a minimum purchase two – one for the Textiles Display and one for All Afloat. Consider purchasing a third for the collection storage area.</p>
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Silica Gel

<p>Self-indicating Silica Gel (900g carton - \$63 each)</p>	<p>1. To add to display cases. Two for the textiles display, one for All Afloat. Humidity indicator on the pack turns from blue to pink when RH exceeds 60%. Can be reactivated and reused. Could also consider placement in Textile Storage.</p>
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Insect Monitoring

<p>Trapper Museum Monitoring Traps</p> <p>\$49.50 for a pack of 25 large traps (which can each be divided into three smaller traps)</p>	<p>Place these in relevant locations throughout display and storage areas. Particularly useful just inside the door of the Maritime Display. Need to be monitored and changed regularly.</p>
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Conservation Supplies

<p>Textile Boxes</p> <p>(Prices range depending on size)</p>	<p>In archival blue corrugated board. Standard sizes. Note: custom orders are possible and there are options that could also house metal objects.</p>
<p>Wrapping Tissue \$ 42 per roll (9m)</p>	<p>Unbuffered Repair-Wrapping Tissue (L tissue) is soft, lightweight & long-fibered, making it ideal for wrapping delicate objects and textiles (incl silk & wool).</p>

Display Cases

<p>Frank Showcase System</p> <p>POA</p>	<p>Frank cases are conservation-grade and fully customisable. Note: they have desiccant chambers in the base, perfect for dealing with imperfect environmental conditions.</p>
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LED Lighting

<p>ERCO</p> <p>POA</p>	<p>ERCO specialise in lighting for museums and galleries. They have an outlet in North Sydney who can direct you in the best LED choices for your display. Ph: (02) 9004 8801</p>
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Appendix 5: Object Assessments



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ABN 37 384 439 469

Brief Object Assessment

Client: Port Macquarie Museum

Date: 15/06/21

Identification of Work

Flagstaff Hill, Pt Macquarie (1935). Hand-coloured photograph.

Accession Details: [2014.80](#)

Dimensions - landscape

Image	L: 355 mm	W: 516 mm
Mount	L: 428 mm	W: 534 mm

Image

The black and white silver gelatin photograph is currently in reasonable condition, though it is framed with poor quality mount and mat. The photograph has significant hand colouring with watercolour pigments.

Supports

Primary: Photographic Paper

Mat – poor quality mat with wove texture. Significant surface dirt. Annotation in graphite just below the bottom left of the photograph reads “Flagstaff Hill, Pt Macquarie”.

There is a secondary support between the backing board and primary support. The backing board has been nailed to the frame. The nails have rusted.

Grey card backing board is attached to the edge of the frame with iron nails – which are partially corroded. There is minor damage to board along bottom edge. The hanging system is attached through backing board rather than the frame proper (see image), which is a potential source of weakness.

Frame

The glazing sound but requires cleaning. The moulding is slightly scuffed but sound.

Recommendations

- Replace inner backing board with photographic board to ensure long term stability of photo. Retain external backing board as this shows original mounting system.
- Separate mat from the photograph and add additional archival interleaving layer between the two to act as a barrier.
- Dry clean the surface of the mat and reframe artwork in original frame.
- Rehouse in clam shell corrugated blue board box, and store flat.



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ABN 37 384 439 469

Brief Object Assessment

Client: Port Macquarie Museum

Date: 15/06/21

Identification of Work

Of Rio Janerio Brezeils; George Herman Bruhn; c1847

Accession Details: [167/W](#)

Substrate

- | | | | |
|---|--------------------------|-------------------------------------|--------------------------------------|
| <input type="checkbox"/> Cockling | x Surface dirt | <input type="checkbox"/> Accretions | <input type="checkbox"/> Embrittled |
| x Tears – minor along edges perpendicular to edge lines | | <input type="checkbox"/> Losses | x Foxing - moderate |
| <input type="checkbox"/> Stains | x Discolouration - minor | x Frass spots | <input type="checkbox"/> Tape stains |

Other: Creasing through top third of image. A couple of frass spots. Foxing in sky and around the edges of the substrate. Significant surface dirt on both the recto and verso. One small spot of adhesive residue (proteinaceous glue) on the verso top left quadrant.

Dimensions - landscape

Substrate	L: 252 mm	W: 350 mm
Image	L: 230 mm	W: 321 mm

Support

Primary – thick wove paper

Media

Watercolour

Condition

Overall, the artwork is in reasonably sound condition. The foxing is slightly visually disturbing though most of this is in the outer margins off the image area.

Recommendations

- Dry surface clean. Wet clean to remove deterioration build up and potentially reduce foxing stains. Reduce creases and flatten. Tear repairs with repair tissue and WSP
- Rehouse in exhibition ready mount.



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Brief Object Assessment

Client: Port Macquarie Museum

Date: 15/06/21

Identification of Work

Logbook (Unofficial)

Accession Details: Archive Mar/1/1 ([968221](#))

Binding

Quarter case bind, book cloth with leather spine and edging. Marbled endpapers. Wove paper blue lined text block. 7 Sections - hand sewn. 189 numbered pages, noting that pp. 93-96 & 185-188 have been torn out. This has led to a weakening of the sewing and damage to the structural integrity of the binding. Foxing on many of the pages and surface soiling.

Dimensions

Length 340mm x Width 220mm x D 20 mm

Media

Predominantly ink (black and blue) with some graphite. Some early entries could be iron gall.

Condition

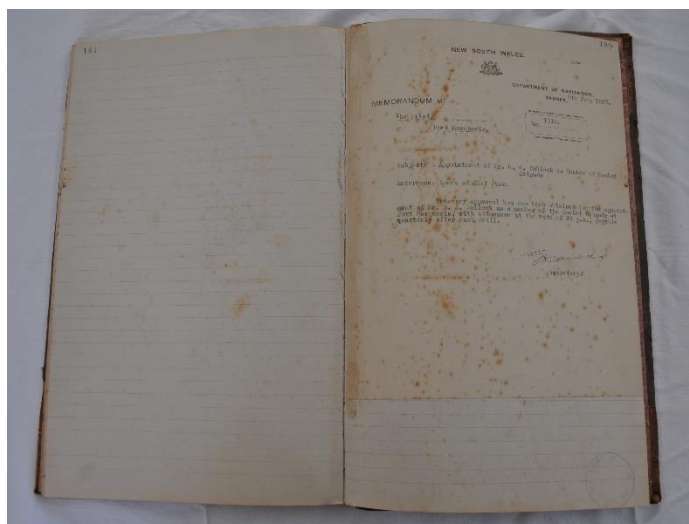
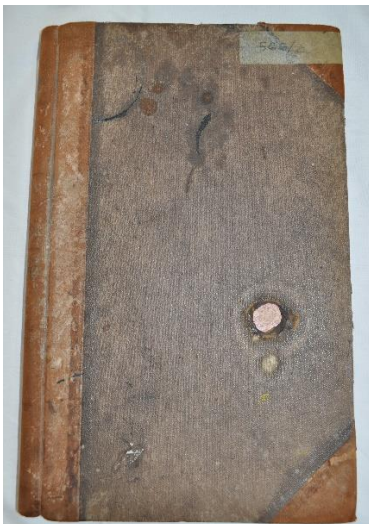
There is a large burn hole in front cover which highlights marbled endpapers beneath. Masking tape with accession number on the top right of the cover. Oil stains and other marks (including from an ink well) on the front and back covers.

Recommendations

While the text block is compromised, it is robust enough to be digitised as is for access and rehoused in a blue corrugated box.

Should the museum wish to display it later, it is recommended that a book cradle be made for it to safely rest upon.

Images





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Brief Object Assessment

Client: Port Macquarie Museum

Date: 15/06/21

Identification of Work

Wooden Oars – North Coast Steam Navigation Co

Accession Details: [2090a](#) and [2090b](#)

Material Type

Painted hardwood, with rounded looms and

Partially legible graphite annotation on Item 2090b: “*Presented to Miss ... 10:30 am 29/4/43*”

Impressed into the oar blade on 2090a “NCSNCo”.

Dimensions

L = 1855mm, W = 110mm at thickest point

Condition

Splits in the wood are emerging along the loom of 2090b.

There is a significant split in the loom of 2090a (approx. 10cm long) – see photo below.

Some scratching and flaking of paint has occurred on both blades, particularly on the edges.

Currently the oars have no specific housing and are kept upright in the main storage area, where they are in danger of further damage. Currently the graphite inscription on 2090b is covered in a PE cover tied with white string.

Recommendations

- Consolidate the split in the handle of 2090b
- Create a custom Perspex storage box that can double as a display case to ensure that the graphite is not handled and that the oars stay well supported.
- Ensure when stored the graphite inscription is face up in the case.

Images



2090a – oar loom showing significant splitting



Oar 2090a showing splitting along the blade



Oar 2090b – with graphite annotation and showing paint loss



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ABN 37 384 439 469

Brief Object Assessment

Client: Port Macquarie Museum

Date: 15/06/21

Identification of Work

Two sailboats

Accession Details: 153D

Substrate

- | | | | |
|--|--|---|--|
| <input checked="" type="checkbox"/> Cockling | <input checked="" type="checkbox"/> Surface dirt | <input checked="" type="checkbox"/> Accretions | <input type="checkbox"/> Embrittled |
| <input checked="" type="checkbox"/> Crease major | <input checked="" type="checkbox"/> Perforations | <input type="checkbox"/> Losses | <input checked="" type="checkbox"/> Foxing - minor |
| <input checked="" type="checkbox"/> Stain - centre | <input checked="" type="checkbox"/> Discolouration | <input checked="" type="checkbox"/> adhesive residues – Left edge recto | |
| <input type="checkbox"/> Insect damage | <input type="checkbox"/> Surface skinned | <input type="checkbox"/> Old repairs | <input type="checkbox"/> Cracked glazing |

Dimensions - landscape

Artwork

L: TBC mm

W: TBC mm

Supports

Primary – heavy wove paper

Secondary – light acidic card. Looks to have been adhered around the edges with proteinaceous glue. Evidence of additional previous backing on verso with proteinaceous adhesive residues.

Media

Graphite

Condition

Significant surface dirt. It has been previously backed to the secondary support to repair or reinforce the heavy central crease. However, this has now buckled and cockled, and dirt has gathered in the crease making it visually disturbing. Small but obvious tidemark in central image area. Perforations from four pin holes. Adhesive residue on the bow of the boat on the left.

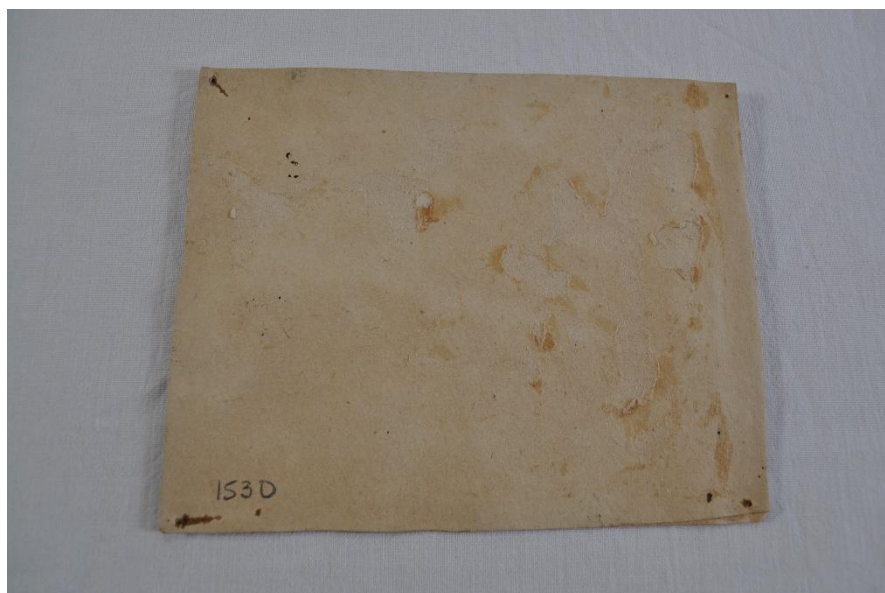
Recommendations

- Dry surface clean off image area. Backing removal. Blotter wash and localised reduction of tide-marked stain.
- Reduce central crease and repair tear at the end of it (RE). Humidify and flatten.
- Rehouse in exhibition-ready mount.

Images - recto



Images - verso





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Condition Report

Client: Port Macquarie Museum

Date: 15/06/21

Identification of Work

"The Embarkation of the NSW Troops for Suakim", Anthony Horden & Sons, Calendar 1886. Chromolithograph.

Accession Details: [791](#)

Substrate

- | | | | |
|---|---|--|--------------------------------------|
| <input checked="" type="checkbox"/> Cockling | <input checked="" type="checkbox"/> Surface dirt | <input checked="" type="checkbox"/> Tide lines | <input type="checkbox"/> Embrittled |
| <input checked="" type="checkbox"/> Creases – with accumulated dirt | <input type="checkbox"/> Tears / Perforations | <input type="checkbox"/> Losses | <input type="checkbox"/> Foxing |
| <input checked="" type="checkbox"/> Stains - minor | <input checked="" type="checkbox"/> Discolouration - minor | <input type="checkbox"/> Tape residues | <input type="checkbox"/> Tape stains |
| <input type="checkbox"/> Insect damage | <input checked="" type="checkbox"/> Surface skinning - minor scuffing across surface along left edge of image | | |

Dimensions - landscape

Image	L: 355 mm	W: 516 mm
Substrate	L: 428 mm	W: 534 mm

Supports

Primary: Medium weight laid paper. While there are no tears or losses within the image area, the original calendar has been cut down prior to framing. Evidence of minor water damage.

Lithograph has been backed onto screen-printed advertising poster for "Dr Townsend's compound extract of sarsaparilla". Significant surface dirt and foxing.

A secondary backing is a felt covered board with the following embossed in gold '*Parfumerie Peau D'Espagne, Roger & Gallet Paris Grand-Prix, Esposition Universalle 1889*'.

Media

Oil-based printing inks.

Frame

Glazing is sound but requires cleaning. Consolidation of the embossed painted moulding surface is required. It is desiccated and adhesive is failing. Flaking. Highly fragile in the current state, loss of paper embellishment high with further handling.

Verso backing attached with rusted nails, no enclosed backing. Has been framed in the past with mounting paper tape which has since deteriorated.

Recommendations

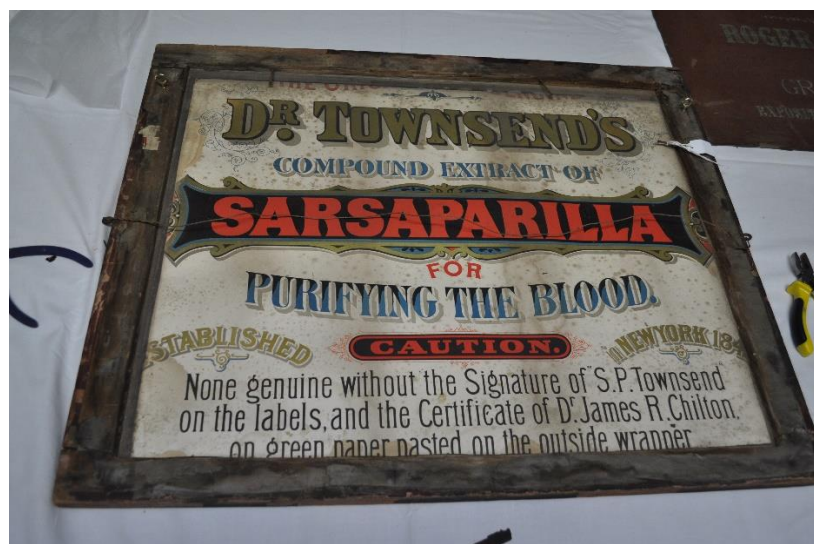
- Dry surface clean, remove from secondary support, wash to reduce tidelines, flatten.
- Store in solander box in an archival mount and mat ready for exhibition into standard exhibition frame
OR if original frame is to be reused
- Consolidate original frame surface, extend the rebate, and allow reframing into original frame with conservation mount and Foamcore backing. Work will require an internal spacer. Replace rusted nails. N.B. Image does not fit to frame.

- Remove tape and stabilise the identification tag on the front of the frame.
- Place the two additional backing layers into polypropylene enclosure and store with the artwork in the solander box.

Images - recto



Images – verso



Inner backing



Outer backing board



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ABN 37 384 439 469

Brief Object Assessment

Client: Port Macquarie Museum

Date: 17/06/21

Identification of Work

Square Rig Jumper – Able Seaman Les Perks

Accession Details: [2865](#)

Sailor's white cotton drill square rig shirt with a square, navy cotton lined fall collar, edged with three rows of white cotton tape. The collar folds over to form a v-neck in the front and a square flap at the back that extends down the back over the shirt. The cuffs and hem are edged with blue cotton tape.

Side hems have been let out in the past and blue cotton tape added at the bottom hem at both side seams.

Condition

There are a number of stains on the sleeves, some look to be rust-stains, particularly on the sleeves. The shirt has some soil and surface dirt.

The stitching is in varying condition. Previous repair on right sleeve has come unstitched.

Some of the blue tape at base and sleeves has stitching coming undone.

The hand stitching around the blue collar is intact.

There is a pink stain under the blue collar at the back

Recommendations

- Conservation wash to reduce soil and staining
- Rehouse in corrugated blue board textile box, interleaved with tissue

Images







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Brief Object Assessment

Client: Port Macquarie Museum

Date: 17/06/21

Identification of Work

Plan of Attack off Cocos Islands 9th Nov 14 (S.S. Buresk)

Accession Details: 2015.18

Substrate

- | | | | |
|-----------------------------------|---------------------------------------|--|--------------------------------------|
| <input type="checkbox"/> Cockling | x Surface dirt | <input type="checkbox"/> Accretions | x Embrittled |
| x Tears – along crease lines | <input type="checkbox"/> Perforations | <input type="checkbox"/> Losses | x Foxing - moderate |
| x Stains - significant | x Discolouration - significant | <input type="checkbox"/> Tape residues | <input type="checkbox"/> Tape stains |

Other:

Dimensions - portrait

Image	L: 254 mm	W: 200 mm
Substrate	L: 307 mm	W: 254 mm

Supports

Primary – thin wove paper

Secondary – handmade mount on 2ply acidic card. Has been taped around four edges into a sandwich with black textured buckram. Mount card verso shows sign of deterioration and discolouration.

Media

Red and blue coloured crayon pencil (oil-based) and graphite

Condition

The plan was stored for some time folded as the paper has significant creasing and tears along these fold lines. Scattered foxing throughout plan area. Significant discolouration and staining throughout image substrate.

Recommendations

- Dry surface clean, remove from secondary support. Wash to remove deterioration product and reduce staining. Strip repairs using Japanese tissue and wheat starch paste.
- Rehouse the plan in an exhibition ready archival mount. Store flat in a solander box.

Image - recto

