

SARJEANT GALLERY CONSERVATION SURVEY

7-11 March 2005

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1 Introduction

The survey of selected works from the Sarjeant Gallery collection was carried out at the request of the Wanganui District Council. This included examination of paintings, works on paper and photographs. A survey of objects was carried out separately the following week by Liz Yuda of Artefacts Conservation. A form for the assessment of each work in the survey was determined after discussions between the Sarjeant Gallery staff, the two Auckland Art Gallery Conservators and Liz Yuda. The results will be compiled by the Sarjeant Gallery staff and it is hoped that they can be entered into the Sarjeant Gallery's Vernon database.

This is a collection of national importance that is particularly strong in New Zealand art but also contains significant international works. After 1945 the Gallery stopped collecting international material and focused on New Zealand artworks, more recently particularly those from the Wanganui region. The collection continues to grow as the Gallery works to maintain the quality and relevance of the collection to the local community.

6-7 people from the Sarjeant Gallery and the 2 conservators were involved in the week-long project. 4 were involved in the painting survey and 3-4 were involved with works on paper. Tasks involved included getting the works out of storage and placing them in a location suitable for examination, filling out accession and collection priority details on a form for each item, the conservation assessment, and returning the work to its storage location. In many cases the retrieval of artworks required two people plus a great deal of reorganization of other artworks due to the cramped nature of the storage areas. The Director Bill Millbank, carried out the curatorial assessment of all of the paintings and some of the works on paper. His knowledge of the collection was invaluable for the conservation assessment as this helped clarify the artistic priorities.

An examination of storage conditions and the recording of light levels for display are also included in this report, as they have a bearing on the condition of the collection. In many cases we found direct links between common damages and conditions in these areas. In addition the storage conditions were considered in relation to a report carried out in March 1989 by Sarah Hillary for the Northern Regional Conservation Service.

2.0 Survey

A survey sheet was filled out for each individual work (see Appendix 1).

2.1 Observations during the survey of 417 works on paper

A selection of works including prints, drawings, watercolours, pastels and photographs from the collection were examined. They were chosen because of their curatorial significance or high monetary value.

- In general the collection of works on paper have been well mounted and framed.
- There is a tendency to overmount existing mounts of poor quality in order to improve the appearance of the works and make them exhibitable. Although this improves their appearance it does not remove the causes of deterioration.
- Many works have been examined framed, no tests of stability of inks and support have been carried out and the recommended conservation treatment can therefore only be an estimate.
- Evidence of silverfish damage has been found on numerous works.
- Many works that are vulnerable to light damage show signs of severe irreversible fading.
- A number of warped frames, which is likely to be related to the hot and dry conditions in storage area during winter.

2.2 Observations during the survey of 570 paintings:

A large proportion of the painting collection was examined and mainly works that were particularly difficult to access because they were rolled or offsite, were not included.

- A majority of the paintings have backing boards, which is an excellent method of protecting them from dirt and mechanical impact from the reverse. However, because of the time restrictions it was not possible to remove the backings and therefore assumptions had to be made about the condition of the canvas reverse and auxiliary supports.
- A number of dents and punctures which may be the result of the overcrowding in storage
- Many of the frames were abraded which is likely to be the result of overcrowding in storage and the use of slot storage units. The slots require the works to be slid out and regardless how carefully that is done it will cause some rubbing. In addition, because of the overcrowding the works frequently have to be stacked. This may also be the cause of abrasion to the frames as well as other mechanical damages.
- Many warped cardboard supports, as well as some warped panels and frames, are likely to be caused by the hot and dry conditions in storage over winter.

3.0 Storage

3.1 Onsite storage - Sarjeant Gallery basement

The collection storage is located in the basement of the Sarjeant Gallery. In general it is a difficult space to use due to its architectural features such as arches, columns and stairs. Currently it is overcrowded and some works that are less vulnerable to environmental conditions have had to be stored at an off-site storage area, which has an uncontrolled environment.

- **Overcrowding**

The staff of the Sarjeant have utilized the on-site store to the best of their ability, it is tidy and well organized but there is insufficient room for the number of items. Currently all of the storage units are full, including the plan chests which house the unframed works on paper, and artworks lean against every wall as well as on the floor. This situation is far from ideal.

- **Access**

It is very difficult to maneuver heavy works on trolleys through the blocked alleyways without risking damage to art works that are stored along the way. The access to the storage racks and shelves is very limited and the retrieval of artworks often requires the movement of several other adjacent works, all of this unnecessary movement is putting the works at risk. Oversized works on paper are stored on top of shelves making it hazardous to retrieve them.

- **Slot storage**

Because the storage area was not purpose-built many of the paintings and framed works on paper are stored in slot storage units. This means the works have to be dragged out which has resulted in abrasion to the frames. In addition some slot storage units have been placed too close together so that removal of artworks requires extensive manipulation.

- **Stacking**

Stacking of works is another potential cause of damage, but because the screen and slot storage areas are full, many paintings have to be stored this way. Some of these works are unframed and are very vulnerable to abrasion and dents, and even the framed works can be damaged from the weight of all the paintings leaning against one another. Artworks with ornate frames are especially vulnerable in the cramped conditions. The staff have done their best to stack them carefully and put cardboard sheets in between, however a great deal of time is required to move the works carefully which otherwise could be a simple task.

- **Temperature and humidity**

The storage area does not have an air-conditioning system. Because it is located in the basement and the building is constructed of stone with walls approximately 4 feet thick, the temperature stays very constant. In summer the storage is cool and dry, but in winter the heating for the galleries upstairs is turned on and the humidity drops and temperature rises. Heating pipes, which run from the gas-fired furnace to heat the galleries underfloor run through the storage area taking the humidity to around 40% and temperature to 26 degrees. Low humidity can cause warping and splitting and may

explain the high incidence of distortions seen in the painting collection. There are many canvas paintings adhered to cardboard that are badly distorted as well as some frames and wooden auxiliary supports that have developed severe warps. High temperatures can also exacerbate traction cracking and several incidences of this type of inherent vice have been identified during the survey.

- Lighting

The area is illuminated with fluorescent lighting. Unless low-UV emittance tubes are used, fluorescent lights emit a great deal of ultra-violet light, which is very damaging to artworks.

- Pests

There is evidence of silverfish damage on works on paper. The environmental conditions, overcrowding and acidic materials are ideal for these pests. Because of the overcrowding it would not be safe to fumigate or apply residual sprays.

- Health and Safety

The storage conditions are not only far from ideal for the artworks but also for the staff who have to work in them. The crowding means unnecessary lifting and shifting and there is a potential risk of objects falling if there is an earthquake. In addition the low ceiling with numerous pipes and arches are possible hazards. Exiting this area quickly in case of fire or earthquake would be difficult because of the numerous obstructions.

- Previous Survey

The results of this survey have been compared to the Storage Survey of March 1989 carried out by Sarah Hillary (see Appendix 2). Some improvements have been made, but the overcrowding mentioned 15 years ago has worsened considerably. Photographs taken in 1989 and 2005 are compared in the following section.

3.2 Images of on-site storage in 1989 and 2005

- The green room, temporary exhibition storage
- Sculpture store
- Small painting store
- Store for large paintings
- Matt cutting area now painting store
- Moveable screens
- Slot storage unit
- Paintings storage adjacent to fixed racks

3.3 Selected images of on-site storage 2005

- Overcrowding
- Paul Hartigan painting that has warped
- Storage units too close to the wall
- Stacked paintings
- Architectural features and their effect on storage space
- Overcrowding

3.4 Offsite storage – building on the corner of Ridgeway & Bell Sts

The offsite storage is a large warehouse of two levels, both with solid wooden floors and a number of windows, some of which are barred. The top level has very high ceilings and little or no insulation. Neither space has airconditioning and the temperature and humidity levels fluctuate wildly in response to exterior conditions. The lower floor is cooler but also damper and mould has been found growing on some of the chairs stored there. The space is divided into many different rooms. The building is not properly sealed, there is evidence of leaks and peeling paint, and insects and rats have easy access. The top level is very dirty.

The space has not been outfitted for storage as it was always intended as a temporary solution until a proper storage could be built. Consequently the artworks are placed in existing rooms and existing shelving is utilized. Despite the difficulties the crates and collection items on the lower floor are arranged in an orderly manner.

Security is fairly minimal as the alarm system is not monitored, there is no staff member stationed permanently in the building and there is no telephone line.

The Gallery has had the offsite store for nearly 8 years. Originally it was used only for crates and plinth storage, however over time the ceramic collection and some crated sculptures were moved into this area because of a lack of space onsite. This situation has not improved and more and more collection items have had to be moved there, including crated works on paper and paintings. Some works are housed in open crates (ie cage structures) and more recently some are stored there uncrated.

The staff at the Sarjeant is aware that this building is unsuitable for the storage of artworks, but because of space limitations at the Gallery they have been forced to store material here. They have done a good job in choosing works that are less vulnerable to damage such as ceramics, but increasingly they are having to put items that are unsuitable for these uncontrolled conditions.

There is the additional risk of taking works from the off-site storage back to the gallery for display or storage. Some artworks that are not stored in crates due to their size, are borer infested and would need to be fumigated to avoid further damage and possible contamination of the gallery storage.

3.5 Selected images from the offsite store

- Open crates
- Borer infestation of work by Andrew Drummond
- Leaks above crates
- Peeling paint and water leaks on covered artworks
- Plaster falling from ceiling

4.0 Gallery lighting

The Galleries are illuminated by natural and artificial light. Daylight enters through windows in the roof, is reflected against a wall and through a diffuser before it enters the gallery. Fluorescent tubes are also used to provide additional lighting, plus spotlights in some galleries. Ultraviolet filtering was placed over the windows in 1991, however the fluorescent tubes and spotlights are not of the low-UV variety.

The light levels were recorded over the period of two days at different times of the day and found to be much higher than recommended. The natural light is much harder to control because it fluctuates constantly, in addition the fluorescent tubes are extremely bright.

	East Gallery 5pm	East Gallery 11am	North Gallery 5pm	North Gallery 11am	History Bay 5pm	History Bay 11am
Paintings	350 lux	450 - 600	500	500	300	Not measured
Works on paper	150 lux	280	280 - 320	280 -350	300	Not measured

The measurements were taken with the artificial lighting on.

The internationally recommended lux levels for works on paper is 50 lux and for paintings 150*-200 lux based on 8 hours exposure per day. (*Many lenders specify 150 lux so it is advisable to be able to achieve this level).

The light levels are too high for paintings, which can accelerate deterioration, including discolouration, fading and cracking. Heat and light can exacerbate traction cracking and there were many examples of this type of damage in works examined. In addition, many of the important historic works on paper are badly faded. This may have occurred before they entered the collection, which means that it is even more important to protect them from excessive exposure now. The accumulative nature of light damage means that it is absolutely crucial to limit exposure now if the works are to be preserved for the future.

5.0 Conclusions

Some of the recommendations in the 1989 survey of the Sarjeant Gallery storage area have been carried out and other improvements have been made. However the overcrowding has increased and a number of collection items have had to be moved to a more unsuitable location offsite. The examination of 979 artworks during the 2005 survey has identified damages that relate directly to the less than ideal storage systems, environmental conditions and overcrowding. The Sarjeant Gallery staff have worked hard to utilize the available spaces in a safe and efficient manner, however the situation has reached a critical level that can only be resolved by developing a larger purpose-built storage facility that has the capacity to take all of the collection and allow for future growth. The survey also identified that the light levels in the galleries were too high which is putting the many valuable artworks at risk. This is also an urgent matter that should be addressed.

The following recommendations are made as a consequence of this survey:

- **House the collection in a new purpose-built and environmentally controlled storage area, which also allows for future growth of the collection. Ideally, it should be located in the Sarjeant Gallery or adjacent to it.**
- **Reduce light levels in the display galleries to recommended levels.**
- **Display works on paper for not longer than 3-4 months a year.**
- **Replace the vulnerable works on paper (watercolours, pastels, gouaches and photographs) with less vulnerable works (engravings, etchings etc) whenever possible in the meantime.**
- **Replace all light fittings adjacent to artworks with low-UV output bulbs and tubes.**
- **New acquisitions, gifts or loans should be temporarily stored in a sealed quarantine area to avoid possible infestation of the collection. Any signs of insect damage should be treated before the works are moved into the galleries or storage.**
- **Regular application of residual sprays and preventive fumigation carried out by a professional company is recommended, however this is not advisable in the current crowded storage conditions. The sprays should not be applied directly to artworks and it is important to protect for overspraying.**
- **The offsite storage is not suitable for the storage of artworks or crates and it is highly recommended that these items are also moved to a purpose-built storage location.**

Sarah Hillary and Ute Strehle, 12 April 2005
Auckland Art Gallery Conservation Services

Appendix 1

A survey sheet was filled out for each individual work. The registration information, artist's significance, exhibitable quality and description of the frames and mounts in aesthetic terms were carried out by Sarjeant Gallery staff. The remainder of the forms were carried out by the conservators. The treatment times and costs of materials are estimates and based on a very quick examination and so should only be considered as guidelines. In many cases the works were examined framed or with backing boards and so this limited the amount of information we were able to obtain. In addition, framing and matting costs are not included.

Appendix 2

A conservation survey was carried out by Sarah Hillary of the Northern Regional Conservation Service from 7-8 March 1989. The recommendations of the survey were many and a summary comparing them with the current conditions is listed below:

- The storage area is not much easier to clean than it was in 1989 as there is so much overcrowding, however the removal of the work area (for mount cutting) from this space has vastly improved the situation and made it much cleaner.
- In 1989 many other materials (library books, catalogues, glass, mount board etc) were kept in storage, however in 2005 these appear to have been moved elsewhere freeing up room for more collection works.
- The environment is now monitored with dataloggers as recommended, however there are concerns about the locations of these devices.
- The wire on the fixed storage screens has not been replaced with more suitable material as recommended.
- The moveable screens have not been improved – the wire has not been replaced and suggestions to reduce the flexing of the screens have not been carried out.
- More slot storage units have been made and some of these appear to provide more protection than the earlier ones. Corrugated cardboard sheets are now used between all paintings and the units are lined with carpet to protect the bottom of the frames.
- Although great care is taken when stacking paintings in 2005, it is still necessary to stack large numbers of them to retrieve works which can easily cause damage.
- Some works were found leaning on the floor in 2005 which was not recommended in 1989, in case of flooding. This is still an issue and although it is likely that these were put there temporarily, it is still not recommended.
- 2 units of vertical storage for unstretched canvas paintings have been built since the survey in 1989 which are very successful. This means that works that are unsuited to rolling can be stored flat. In addition, a hanging rack has been built so that an unstretched work can be taken out and rested there for examination.
- The rolled unstretched paintings examined in 2005 are placed on large diameter tubes face-out and kept off the floor as recommended in 1989.
- In 1989 the storage area was considered overcrowded. Despite the removal of the mount cutting table, books, boards, glass, and the collection items that have been moved to the off-site store, the storage area in 2005 is much more overcrowded than before. These changes can be seen in the comparative photographs.

Appendix 3: On-site storage plan