Condition reporting

Care of collections and taonga
Condition reporting

Condition reporting is a valuable tool for managing collections. This guide offers a systematic approach to reviewing the condition of items in your collection, as well as a consistent framework, and a set of terms for making useful reports.

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Condition reporting is a tool to help you better care for and manage your collections. Condition reports are especially useful when objects are going into or out of your organisation on loan, and they should always accompany objects in travelling exhibitions. They also have other valuable uses.

**Condition reports can:**

- increase your organisation’s understanding of what is in its collection
- provide useful information about potential acquisitions. If an object is in poor condition, requiring extensive treatment, this may influence the decision to acquire
- capture important information at the time an item comes into the collection, providing a valuable reference point for any later changes in condition
- help you plan exhibitions by showing which objects are in a stable condition and which need treatment
- help provide information for applications seeking funding for conservation assistance
- help identify and remedy any problems with storage or display practices
- help resolve disputes, should damage occur to an object in your collection while on loan to another organisation or during transportation
- help with insurance claims if an item goes missing or is damaged. You may have problems making insurance claims if you don’t have recent condition reports about material in your collection.
Systematic examination

The scope of your examination, and the level of detail you record, will be guided by the ultimate purpose of the condition report. The most common type of condition report that non-conservators compile is for an object that is going out or coming in on loan.

Thorough, systematic examination is the first step in condition reporting.

Scope of the examination

When a loan object is leaving your institution, you need to thoroughly examine the item and document its condition in a clear, logical, and unambiguous manner. If a loan object is entering your institution for a limited period, and a travelling condition report exists, you simply need to note any change that has occurred since the previous examination. It is important that you note change only, and do not create another full condition report. At the end of a touring show, a final detailed examination of the loan object is required before the work is returned to storage or display.

Other types of condition reports are compiled when an object is first acquired, or during periodic condition checks. Again, the first type of condition report requires detailed examination, while regular checks should simply note any change or new damage.

Preparing for the examination

Prepare your work space before you bring the object to the table for examination. Make sure that the table surface is clean and large enough for the largest object that you will be examining, and for your paperwork and tools. Avoid clutter.

Correct handling is very important. Ensure that objects are well supported at all times; cushion items with tissue or foam wadding. If possible, increase protection by placing objects in containers, on or between cushions or foam. If there is more than one object in a container, separate items using scrunched-up tissue or foam. This prevents abrasions, cracks, and breakage.

More than one person will be required to turn over large objects in order to examine the back. Never place heavy objects on top of lighter ones, and take care that objects are not left on the table without protection from rolling.

By varying the position of the lights and using magnification, a wide range of information on the structure and condition of the object can be recorded.
Checklist for examining items

During the examination, you will need:

• temperature and humidity levels similar to the usual display or storage environment – although it may be necessary for objects to gradually become acclimatised

• good, even lighting that allows you to see details clearly (objects should only be exposed to this brighter light for short periods)

• additional lamps, torches, or light boxes that provide:
  – raking light shone from the side of the objects, parallel to the surface – this emphasises surface characteristics, such as creases in paper
  – strong light shone directly onto the surface – this emphasises details such as textures and coatings, different ink qualities, and the presence of both surface and ingrained dirt
  – transmitted light shone through an object from behind, such as a light table; this can reveal splits, small tears, insect damage, and areas of weakness that might not otherwise be seen in paper, textiles, and paintings

• small magnifiers, such as thread counters or photographic magnifiers

• white cotton or close-fitting powder-free surgical gloves to protect the object from oils, salts, and sweat from your hands

• pencils (not pens) to record your findings

• a fabric measuring tape (no sharp metal components)

• a camera – a ruler, pencil, or similar object can be useful to set alongside the object to provide a sense of scale

• a fine palette knife or pair of tweezers (such as stamp collectors use) for lifting delicate materials.

If you are working with other people on the examination, agree before you start on the terms you are going to use to describe the objects in the report.
Handling objects

Paintings and framed material
Check the painting is secure in its frame. If you need to put it face down to examine the back, always check first that the front is stable and that there is adequate padding to protect the front of the frame. Foam blocks or padded timber blocks will protect the frame.

Carry the painting with two hands, one on each side. Keep it vertical and facing towards you. Don't carry a painting by the top edge as this will damage the frame.

Carry large unframed paintings by gripping the outside edges of the stretcher. If this isn't possible, carry from the internal stretcher bars, ensuring you don't insert your fingers between the stretcher bar and the canvas.

Carry unstretched paintings rolled around a cardboard cylinder, on a tray, or with a hanging bar. Note: not all unstretched paintings are suitable for rolling. Contact a conservator for advice when considering whether to roll a painting.

Rest paintings on foam or padded blocks. This protects the edges of the stretcher or frame, and makes it easier to pick them up again.

If it is necessary to vertically stack framed paintings, stack similar sizes together. Put them face to face and back to back, inter-leaved with double-walled corrugated cardboard. Ensure that weight is well distributed to avoid putting stress on the painting.

Always hold the frame of a painting. Avoid touching the painted surface or the back.

Ensure two or more people carry large or heavy paintings. That way, the side and bottom edges can be supported. Never carry more than one painting at a time.

Never stack unframed works.

Photographs
Handle as little as possible; photographs are highly susceptible to damage. Cotton or close-fitting powder-free surgical gloves should be worn.

Support old photographs at all times. See the section in this guide on works on paper for more information.

To avoid scratching photographic emulsions, interleave photographs with photographic storage paper or Mylar (polyester film) – not coated papers.

When labelling, write in pencil on a separate piece of paper that is large enough to fold around the whole photograph. Always avoid sticky tape or paper clips – even for temporary labels.
Books
When getting a book from a shelf, hold it firmly around the spine, your fingers on one cover and your thumb on the other. Taking a book down by pulling it by the top of the spine risks causing damage.

Always wear gloves – cotton or surgical. Cotton gloves should be worn when handling books with gold leaf decorations.

Open the book gently without forcing it flat.

Don’t stack books or carry them so that they rub against each other.

Works on paper
Handle paper as little as possible.

Wear gloves. Cotton gloves are good, but can make it hard to pick up individual sheets of paper. Close-fitting powder-free surgical gloves are a good alternative.

Support paper at all times – it may be brittle. To look at it closely, place it on a sheet of cardboard or another rigid support before picking it up. Large works should be placed between two pieces of mount board and carried by two people.

Works using chalk, pastel, watercolour, or pencil are easily smudged or abraded.

Make sure that nothing rubs against works on paper – this includes rough paper or board. Never stack them.

Keep works on paper away from printed paper – especially newsprint – because the inks might come off onto the artwork.

Avoid using sticky tape, rubber cement, wood glue, ink, markers, rubber bands, or paper clips (even plastic ones) near or on your works.

Textiles
Handle textiles as little as possible.

Remove any jewellery you are wearing – it could catch on the fabric.

Use gloves to ensure acids and chemicals on your hands are not absorbed by textiles.

Support textiles. Larger textiles should be rolled and carried on the roller. Smaller textiles can be carried on a box or on a tray. This is especially important for Māori textiles containing black dye, which makes them very fragile.

Remember that certain areas of garments are more fragile than others due to wear.

Remember you can damage a garment if you lift it by its shoulders.

Furniture
Remember that any projecting part of a piece of furniture is likely to have the least strength. So a chair, for example, should be lifted by the seat, and a table by the legs.

Wear cotton or surgical gloves if you need to touch the upholstered parts of furniture.

Three dimensional objects
Handle objects as little as possible.

Examine each object to find the most stable part – handle it there. When handling a metal, ceramic, or glass object, don’t use the handle, rim, or other projecting part to lift it.

When handling a multi-part object, lift only one part at a time. For example, handle the lid of a teapot separately from the pot itself.

Try to avoid painted surfaces. Use surgical rather than cotton gloves for objects with flaking or powdery pigment surfaces, such as bark paintings – cotton gloves may pick up the pigment.

Always wear cotton or surgical gloves (not latex) when handling any metal item: the chloride and salts in the perspiration on your hands can cause corrosion.
Regardless of what kind of object you are reporting on or what the condition report will be used for, the following details need to be recorded:

- **Type of object**, e.g. watercolour, ceramic, textile, book, painting on canvas, carving
- **Title of object**, if any
- **Name of artist**, maker, or author, if known
- **Accession number**
- **Date and place of manufacture**, if known
- **Dimensions recorded in millimetres**
  - For 2D objects: height first (an A4 size drawing is recorded as 297mm x 210mm, or 297mm high by 210mm wide).
  - For 3D objects: height x width x depth. There are no rules for irregular-shaped objects. For a jug, for instance, you might record the height, circumference, and distance from the tip of the spout to the furthest point of the handle, or you might decide to record the maximum dimensions.
- **Number of parts that make up the item**. This is important when recording items such as a suit of clothes, a set of tools, a sculpture, or a broken object.
- **Accessories**, such as a frame or mount on a painting, a cover for a telescope, or a strap for a suitcase. Include any fittings, e.g. hanging hardware, glazing, or backing.
- **Structure** in the case of paintings, works on paper, 3D objects and textiles – see page 08-09 for further information
- **Materials or media** the object is made from – these can sometimes be difficult to determine. If you are unsure, use phrases like ‘appears to be’, ‘typical of’. Alternatively, you can enclose the information you are doubtful about in square brackets – for example, [synthetic fabric]. For more details on materials or media commonly used in paintings and textiles, see further reading on page 16 for further information.
- **Damage and deterioration**. These can be caused by many factors, including light, heat, mould, and insects. These causes are explained more fully on pages 10-11. The following table gives typical kinds of damage to note on a condition report (see the glossary at the end of this guide for definitions).

**Kinds of damage to note on a condition report**

<table>
<thead>
<tr>
<th>Kind of Damage</th>
<th>Type of Damage</th>
<th>Cause of Damage</th>
</tr>
</thead>
<tbody>
<tr>
<td>insect damage</td>
<td>tears</td>
<td>mould</td>
</tr>
<tr>
<td>creases</td>
<td>slack canvas</td>
<td>splitting</td>
</tr>
<tr>
<td>discolouration</td>
<td>yellowed</td>
<td>varnish breakage</td>
</tr>
<tr>
<td>loss</td>
<td>fading</td>
<td>foxing</td>
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<tr>
<td>accretions</td>
<td>stains</td>
<td>cuts</td>
</tr>
<tr>
<td>holes</td>
<td>flaking paint</td>
<td>rust stains</td>
</tr>
<tr>
<td>distortion</td>
<td>cracks</td>
<td>corrosion of</td>
</tr>
<tr>
<td>abrasion</td>
<td>yellowed</td>
<td>sticky tape</td>
</tr>
<tr>
<td>cockling</td>
<td>previous</td>
<td>repaired</td>
</tr>
<tr>
<td>graffiti</td>
<td>indentations</td>
<td>delamination</td>
</tr>
<tr>
<td>gouges</td>
<td>loose or</td>
<td>ingrained dirt</td>
</tr>
</tbody>
</table>

- **The location of any damage**. For a large object, it might be sufficient to note the general location, e.g. ‘top right corner’. Smaller objects may require a more exact location, expressed in millimetres from the nearest edges (e.g. ‘the crack is 250 mm from right and 165 mm from bottom’).

A further approach is to supply a scale diagram with the damage clearly marked. But perhaps best of all is a good-sized photograph with a clear overlay sheet on which you can mark the areas of damage (see ‘Making overlays to record damage’ on page 08 for additional information).

- **Details of the examination**. Names of those who examined the object, and the date on which the examination took place.
Making overlays to record damage

Diagrams and photographs of the object being examined can make helpful additions to the condition report. Photographic overlays are even more useful, allowing you to pinpoint the exact location of any damage. They can be made from Mylar (polyester film) or OHP sheets as follows:

- Take a high resolution photograph of the object you are examining and enlarge this to A4 size either digitally or with a good quality photocopier.
- Take a Mylar sheet bigger than the A4-size image and fold it at the top.
- Attach the fold-over to the back of the image with double-sided tape.
- Using permanent marker pens, note damage on the overlay sheet. Provide a key to the symbols you use: for example, you might use blue dotted lines to indicate cracks, or red dots to show an area of insect damage.

Structure of items

The structure of paintings and works on paper

Paintings have several separate components, all with different functions and physical and/or chemical properties. Much variation can be found in a painting’s structure but the two essential components are the primary support and the paint.

- Auxiliary support
  Paintings on canvas have a support to keep them taut, called either a stretcher (if it is expandable) or a strainer. Sometimes canvas paintings are adhered to a rigid support, a process called maroufl age. An unstretched canvas may be attached to a hanging bar. Works on paper may have a secondary support such as a backing and window matt.

- Primary support
  This is the physical structure that holds or carries the painting's ground and paint film. It might be made of canvas or other fabrics, paper or cardboard, plywood or hardboard.
  Supports attract both mould and insects. They also continually absorb and release water from the air, which may cause them to stretch or warp and put the painting under stress.

- Ground
  The ground is the film or layer that lies between the support and the paint layers. It protects and seals the support, and provides a texture and colour to work on. A layer of glue size, followed by an oil ground, used to be common in paintings on canvas. Acrylic gessoes, applied directly to the canvas, are more common today.
  For works on paper, media are generally applied directly to the support.
  The ground is not always described in a condition report because it can be hard to identify. A condition report might note a complete absence of ground, or poor adhesion between the ground and the paint.

- Paint layers
  These form the painted image, and generally comprise several layers. Paint is composed of pigments mixed with a liquid medium. Examples include acrylic paint, which has a synthetic resin medium, and oil paint, which uses a drying oil as the medium. It is appropriate to talk about the artist’s technique in this section; for example, are the paint layers thickly or thinly applied? Is there any impasto? Refer to glossary on page 14.

- Surface coating
  A varnish is often applied to paintings as a protective layer that saturates the colours and protects the painted surface against minor scratches and abrasions.
The structure of three dimensional objects

3D objects can be constructed from an enormous variety of materials, using a range of fabrication techniques, and have a variety of forms and functions.

- **Support**
  
The physical structure might be made from a variety of materials such as wood, metal, basketwork, or paper. These materials may have a secondary support frame to keep them taut and rigid.

- **Ground**
  
The layer that lies between the support and media layer.

- **Media layer**
  
This may comprise several application coatings, such as pigment, varnish, or glazes.

The structure of textiles

Textiles can be made from natural or man made fibres. Woven fabric is constructed from weaving sets of yarns that run lengthwise and crosswise (warp and weft). Unwoven fabrics employ the processes of fibres matted together, such as beating, felting, tufting, and stitchbond processes.

- **See He Rauemi Resource Guides**
  
- 18: ‘Caring for Māori textiles tiakitanga o te kahu āku’
  
- 24: ‘Caring for textiles and clothing’

An example of beaten inner bark fibre, generally known as tapa cloth.
Identifying damage

It is easier to identify and report on damage or deterioration if the likely causes are understood. Different kinds of objects are more vulnerable to different kinds of damage, but the following are some common causes.

Light

Although obviously essential in museums and galleries, light – both artificial and natural – is one of the most damaging elements for collections. All forms of light, including the sun, produce energy. This energy breaks chemical bonds, causing object materials to deteriorate. The two most damaging forms are ultraviolet or UV radiation (short wave, high energy) and infrared radiation (heat).

The damaging effects of light may not be fast or obvious, but they can be devastating. Depending on the item, signs to look for include:

- **Textiles**
  Colours become pale and dull. Fabrics become fragile and split readily. Nineteenth-century textiles are especially susceptible: many contain aniline dyes, which are very prone to fading, especially purples, blues, and greens.

- **Pigments in watercolours**
  Pigments derived from plants or animals are especially sensitive to photochemical reactions. Colours can fade and change markedly. Many of the same pigments are found in oil paints, but photochemical damage does not occur at the same rate as for watercolours because the paint layer is thicker and the oil medium protects the pigments.

- **Paper**
  Cheap, mass-produced modern papers are made from untreated wood pulp, which contains lignin. Lignin is very prone to photochemical deterioration. As it breaks down, it produces yellow-brown substances (seen when a newspaper is left out in the sun) and acids, which make the paper brittle. This deterioration continues even when the paper is no longer exposed to the light.

- **Oil paintings, bone and horn objects, furniture**
  Although not as sensitive as those described above, these items are still susceptible to light damage. Damage, such as fading or cracking, can be serious and cumulative.

Temperature and relative humidity

These can be very damaging for collections – especially when the temperature and relative humidity fluctuate widely, or are extreme.

Relative humidity is a measurement of the amount of moisture in the air, and is directly related to temperature. As the temperature rises, the amount of moisture that the air can hold will increase and the humidity level will decrease. This can cause several kinds of damage:

- When there is high humidity (a lot of moisture in the air), mould/mildew can grow on materials and cause decay. Insects also thrive in these conditions. Textiles and painting canvasses are particularly affected.

- High humidity causes metals to corrode, dyes and textiles to fade, organic materials – such as wood and leather – to swell or change shape, and emulsions and adhesives to become sticky.

- In low humidity, organic materials become desiccated. They may become brittle, distort, or split. Because thicker materials lose moisture more quickly from their surface, they may warp. Adhesives may dry out, crack, and fail.

- Constantly fluctuating temperatures can cause repeated expansion and contraction, leading to stress on parts of the object. This can lead to cracking, flaking, shrinkage, and warping in paintings, furniture and other wooden objects, and bone and ivory. In textiles, the constant expansion and contraction of fibres can eventually cause them to fray and fracture.

Dust, dirt, and other pollutants

These pollutants take two forms – either particulate or gaseous. They come from three main sources: the external environment (for example, salt-laden winds or the hydrogen sulphide found in Rotorua); the environment inside the museum or storage area; and materials used to store or display objects.

Dust and dirt cause many kinds of damage. The following are some examples:

- In textiles, dust lodged between fibres can act like tiny cutters, breaking or otherwise damaging threads.
• Dirt may become ingrained on the surface of paint, particularly on the softer surfaces of modern acrylic paints. It can also become ingrained in porous surfaces, such as paper or basketwork, and become impossible to clean.

• A build-up of dirt between the stretcher bar and the canvas of a painting can lead to distortion, causing cracking and other damage.

• Dust particles containing chlorides (found, for example, in salty air) can cause bronze disease (see glossary on page 14).

• Pollutant gases, including sulphur dioxide and sulphuric acid, can corrode certain metals. Sulphuric acid also attacks protein-based materials, such as leather bookbindings. Red rot caused by sulphuric acid is a particular problem for old books.

• Efforts to clean dirt off objects may cause further damage including abrasion and scratching.

Micro-organisms and pests

Objects are susceptible to damage from both moulds and mildew, and insects and rodents. While they can be controlled, this needs to be done carefully to avoid exposing the collection to further risks.

Moulds grow when relative humidity is greater than 65% and there is little air movement. As they digest and break down the materials they feed on, moulds can cause several kinds of damage.

• Paper, textiles, and wood can become weak and eventually crumble away. Pages of books may become melded together and lose their strength.

• Objects made of stone and metal may be affected by the acids produced by the mould’s digestive enzymes.

• Stains and dull spots can appear on paintings affected by mould, causing the canvas to weaken. These are generally impossible to remove.

• Mould growth can produce bright stains on textiles, wood, and paper. These can be virtually impossible to remove without further damage to the object in question.

• The enzymes in mould can attack photographic gelatine, destroying the photographs.

Insects and rodents are highly destructive. Sometimes the damage they cause can be hard to detect. Signs to look for include:

• Holes and cavities left behind by beetles that chew their way through a wide variety of plant and animal-based materials. Borer can be identified by the fine dust they create as they tunnel.

• Holes in textiles and garments caused by moths feeding on wool, fur, hair, silk, dead insects, horn, and feathers.

• Surface marks caused by cockroaches regurgitating whatever they have been eating (which includes leather, hair, skins, paper, books, and more) or gluing their egg cases onto objects.

• Booklice that feed mainly on mould growing on old books, or on other dead insects.

• Holes and surface erosion in paper, fabric (especially starched material, cotton, linen), photographs, and book bindings caused by silverfish.

• Teeth marks and stains from rodents and their excrement.

Inherent instability

Some materials are more unstable than others, and prone to deterioration over time. Deterioration can occur where certain incompatible materials are used together. Examples include:

• Paper, fabric, and plastics that were once flexible can become brittle due to chemical deterioration.

• Adhesives, paint layers, varnishes, and coatings may become less flexible or tacky. Collages and other items using a lot of adhesives may fall apart. Paintings may flake due to poor adhesion between layers.

• Colours in paintings and fabrics may fade or discolour.

• Metal objects may corrode.

• Large sculptures may have a high centre of gravity and distort over time.

Mechanical damage

Paintings are susceptible to damage through poor handling, accidents, vibration, and neglect. Types of damage include dents, bulges, cracks, tears, and paint loss. Textiles can be prone to abrasion and fibres fraying. Objects may be prone to cracking, splitting, and abrasion.

Restoration attempts

Efforts to fix, restore, or clean an object may have disastrous results – discolouration or blanching of a painting; scratches on furniture; shrinkage or tearing of fabric; and unsightly excess adhesive. Some of the resulting damage can be irreparable.

Seek advice from a professional conservator before attempting any restoration, repairs, or cleaning. The New Zealand Conservators of Cultural Materials (NZCCM) can supply the names and contact details of qualified people in your area. Visit the NZCCM website: www.nzccm.org.nz
Making reports

Whatever the purpose of the condition report, follow these guidelines.

Be consistent in your terminology, especially if several people are responsible for writing the report.

Use simple, straightforward language, although you will need to use some technical terms for clarity. People using the reports in future may not have the same technical, historical, or cultural knowledge as its authors.

Be objective and specific. Vague subjective terms – such as 'good' or 'sound' – should be avoided; always try to qualify such terms with specifics. The glossary on pages 14-15 contains terms commonly used in condition reporting. These can help make your report more accurate, unambiguous, and useful.

Use diagrams, drawings, and photographs wherever possible to supplement your written report.

Different types of condition reports

Acquisition report
This is a condition report written when a work is being considered for gift or purchase. In addition to the general requirements listed on pages 07-09, an acquisition report should also address:

- longevity and stability
- treatment requirements
- issues of originality – whether the object has been retouched, repaired, or rebuilt
- storage and display issues.

See Museum-in-a-box on our website for an acquisition report template.

Collection record
This is an active record of an object’s condition, and is updated every time the work goes on display or is sent out for loan. These records are essential for settling insurance claims.

For organisations with permanent displays, it is recommended that collection records are completed regularly (six-monthly or yearly, depending on resources). A collection record can be supplemented with regular inspections or surveys every 6 or 12 months, or when an object goes on or off display.

See Museum-in-a-box on our website for a condition reporting form template.

Inspection record
Like a collection record, this is a regular update of the condition report. It may be undertaken any time an object goes on display, is taken out of display, goes out on loan, or is returned from loan.

Travelling (or loan-out) condition report
The travelling condition report records any changes in the condition of an object as it travels from venue to venue. It comprises the original condition report prepared by the lender, with incoming and outgoing comments added by each institution exhibiting the object.

To ensure the travelling condition report does its job, the lending institution must take responsibility for supplying a full and accurate initial condition report. A copy of this initial condition report should be retained by the lender for the whole time the object is on loan.

The borrowing institution should always use this travelling condition report, and not substitute an alternative report. The borrower should also:

- avoid repeating information that is provided in the initial report or in comments made subsequently by other institutions
- treat the travelling report as a legal document, making sure any comments are accurate, clear, and precisely written
- follow any instruction given in the report and in the exhibition/loan contract
- contact the lending institution within 24 hours if there is any change in the condition of the object
- return the travelling report with the object.

See Museum-in-a-box on our website for a travelling (loan-out) condition report template.

Loan-in condition report
This is a report prepared for objects that are borrowed (for exhibition or other purposes) and do not have accompanying condition reports. This report provides a reference point if there are any concerns about the condition of the object when it is returned to its owner. Lenders should countersign the condition report at the time of the loan.
Condition report as part of a treatment proposal

This is a more specialised form of report, usually written by a conservator. The information it provides is used to determine how an object should be treated. It may include the results of research, and will provide more historical information and detail – for example, about the structure of a painting – than other kinds of condition report.

See Museum-in-a-box on our website for a condition report template as part of a treatment proposal.

Melanesian spear racks, Otago Museum. Photo courtesy of Otago Museum.
Abrasions – a wearing away of the surface caused by scraping, rubbing, grinding, or friction. Often superficial.

Accretion – any external material deposited on a surface: fliespecks, accidental drips and splashes (see also ‘inclusion’).

Adhesive residue – may be from glue, paste, pressure-sensitive tapes.

Bleeding – the suffusion of a colour into adjacent materials, often caused by water or other solvents.

Blister – a separation between layers appearing as an enclosed, bubbled area.

Bubbly areas – a type of deterioration found in cellulose nitrate and acetate.

Buckling – a soft concave or convex random distortion.

Chip – a defect in the surface caused by material that has been broken away.

Cleavage – a separation between the paint layers and the support that can result in cupping (concave flakes). It is caused by the contraction of the support, forcing the paint layer up off the surface.

Cockling – a soft concave or convex distortion characterised by parallel, repeated ripples, usually either horizontal or vertical.

Crack – a surface fracture or fissure across or through a material, occurring either as a straight line or branching in form: no loss is implied. A crack may be described as blind when it stops part way; as hairline when it is a tiny fissure; and as open when it is a large fissure.

Crease – a line of crushed or broken fibres. Generally made by folding. A dog-ear is a diagonal crease across the corner of paper, parchment, etc.

Cupping – see cleavage.

Delamination – a separation of layers; splitting.

Dent – a defect in the surface caused by a blow; a simple concavity.

Discolouration – a partial or overall change in colour caused by ageing, light, and/or chemical agents. This includes yellowing and darkening, bleaching, which is the lightening of colour, and fading, which refers to a loss of colour and/or change in hue.

Disjoin – a partial or complete separation of a join between two members of an object, as distinct from a crack, tear, or split.

Distortion – a warping or misshaping of the original shape. Shrinkage may occur.

Draw – a local distortion at the corner of a painting, marked by diagonal cockling from the corner toward the centre of the mount.

Drumming – a type of matting where the support is adhered on all edges to the window mat, causing problems if the relative humidity becomes too low.

Dry rot – decay of seasoned timber caused by fungi that consume the cellulose of wood, leaving a soft skeleton that is readily reduced to powder.

Embrittlement – a loss of flexibility causing the material (e.g. paper, parchment, leather) to break or disintegrate when bent or curled.

Ferrotyping – glossy patches found on the surface of photos, resulting from lengthy contact with a smooth-surfaced storage enclosure, such as polyester or glass.

Fill – the material used to replace areas of loss; fill is then inpainted.

Flaking – lifting and sometimes loss of flat areas of the surface layer.

Fold – a turning over of the support so that the front or back surface is in contact with itself.

Foxing – small yellow, brown, or reddish-brown spots on paper or canvas, caused by mould or oxidation of iron particles in the paper.

Fraying – ravelled or worn spot indicated by the separation of threads, especially on the edge of a fabric.

Frilling – separation and lifting of the photographic emulsion from the edges of the support.

Impasto – thickly applied paint, often with pronounced brushwork.

Inclusion – particle accidentally bonded to the surface of an object during manufacture (on support or paint surface).

Inpainting – new areas of paint to restore design or colour continuity. Restricted to areas of loss.
Iridescence – colour effect in glass due to the partial decomposition of the surface and the formation of innumerable thin scales, resulting in an uneven, flaky surface.

Loss – missing area or hole.

Mildew – see mould.

Missing element – loss of an integral component of, or addition to, the material or appendage (e.g. clasp, cover).

Mould – biological in nature, mould or mildew can be found in the form of foxing; as a coloured, furry, or web-like occurrence. It may have a musty odour.

Odour – smell of sulphur, camphor, vinegar, etc; produced by the degradation of cellulose nitrate or acetate products. Strong odour indicates severe degradation.

Oozing – see sweating.

Overpainting – areas of repainting over existing original surface.

Patina – a coloured surface layer, either applied or naturally occurring.

Pest damage – surface loss (silverfish), tunnelling, holes (borer), fliespecks etc that are obviously caused by insects or other pests.

Red rot – powdery red substance found upon vegetable-tanned objects resulting from chemical reaction with pollutants in the air.

Scratch – linear surface loss due to abrasion with a sharp point.

Sheen – a polish produced by handling, often occurring on frequently touched locations.

Silvering – shiny or mirror-like discolouration in the shadow areas of a photographic image caused by the ageing of excessive residual silver compounds.

Skinning – surface loss.

Soil – a general term denoting any material that dirties, sullies, or smirches an object. Dust is loose soil generally distributed on surfaces; grime is soil tenaciously held on surfaces; a smear and a fingerprint are types of local grime. A spatter, or run, is the result of dried droplets or splashes of foreign material.

Stain – a colour change as a result of soiling, adhesive, pest residue, food, oils, etc. A diffuse stain is without a distinct boundary; a discrete stain has a distinct boundary; a liquid stain has a discrete boundary or tide-line that is darker than the general area of the stain; a centred stain has a darker or more intensely coloured centre within its general area.

Sweating – a clear or yellow oily liquid found on the surface of a deteriorated cellulose nitrate or acetate object.

Tear – a break in paper or fabric, or other sheet material, as a result of tension or torsion.

Warp – the planar deformation of the support caused by changes in relative humidity.

Wear – surface erosion, usually at edges, due to repeated handling.

Weeping – occurs on glass as a reaction between water and formic acid.
Further reading


For a list to help with identifying materials, visit the National Library of New Zealand website: [http://www.natlib.govt.nz](http://www.natlib.govt.nz)

Collections, on the Collections Australia Network website, has useful information on condition reporting and many other aspects of the care of cultural items: [http://www.collectionsaustralia.net/](http://www.collectionsaustralia.net/)

Further training

To learn more about the subjects covered in this guide, you may be able to attend a workshop about condition reporting. Contact National Services Te Paerangi to find out about training opportunities in your area.

The following organisations can assist with advice and training on condition reporting: National Services Te Paerangi; New Zealand Conservators of Cultural Materials.

Further resources

*Museum-in-a-box* on the National Services Te Paerangi website [www.nationalservices.tepapa.govt.nz](http://www.nationalservices.tepapa.govt.nz) has models including an ‘Acquisition report’; ‘Condition reporting form’; ‘Travelling (or loan-out) condition report form’; and ‘Condition report as part of a treatment proposal’.

National Services Te Paerangi also has object receipt form booklets available. Contact us to find out more.
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