Heritage Conservation Risk Assessment

Introduction

A risk assessment approach has been widely used in areas such as visitor and public safety, Occupational Health and Safety and asset maintenance. The joint Australian/New Zealand Standard Risk Management AS/NZ 4360:1999 is a guide to the elements of the risk management process. As a generic document the standard is not specific to any industry, activity or economic sector. It is intended to have application across a very wide range of industries including public, commercial and volunteer organisations. Activities as varied as project management, investment, foreign exchange operations, construction and fraud prevention are listed as possible areas of application.

Parks Victoria has adopted a risk assessment approach in the area of environmental management. Management of Parks and Reserves requires the thoughtful setting of priorities to ensure that maximum benefit is achieved with the available resources. A systematic approach to priority setting should help to ensure that the most important environmental values are protected and resources used in the most efficient way. If a risk management approach offers a way of achieving this objective how might it be used in the area of heritage conservation? Would a greater awareness of the risks to heritage values help focus attention on the issues of greatest importance and achieve better conservation outcomes?

A Systematic Approach

A risk assessment approach is not a radically new approach to heritage conservation. It is a way of systematically identifying the potential threats to the heritage values of a place and then making decisions about how to deal with them. It is possible that many managers and practitioners may already go through comparable processes but in an unconscious or unplanned way.

Risk management can often be ad hoc and fragmented. Some conservation issues may go unresolved for years due to the lack of such a structured approach to provide a framework for decision making.

A systematic approach provides managers with good information to make sound decisions. The basis of decisions can be documented and revisited at a later time if the environment (physical, environmental, heritage, resources, political) changes. The use of a risk assessment approach in heritage conservation is quite compatible with the Burra Charter process because from the outset it must be based on a clear understanding of the heritage values of the place. When risk assessments and the management decisions which flow from them are documented they could form a valuable part of the Burra Charter conservation management and record keeping processes. The aim should be to establish consistent and comparable sets of information to allow the focus of scarce conservation resources where they are needed most whether it is to the most significant parts of a particular site or the high value high risk places in a statewide network.

Chris Smith

Chris Smith is an architect and heritage planner in the Central Region of Parks Victoria. He has worked in the field of Heritage Conservation since 1984 in Parks Victoria and its predecessor Government agencies. As project architect Chris has been involved in the conservation of many significant historic sites including Anderson’s Mill, Smeaton, Days Mill & Farm Murchison, Walhalla Post Office, Woodlands Homestead and the Creswick Nursery Office. He was Chairman of the Walhalla Post and Telegraph Office Committee of Management, 1991-98.
Identification of Risks to Heritage Values

Identification of risks to heritage values encompasses a broad scope of threats not only catastrophic natural or man made disasters. An initial list of the obvious risks to a historic place may include factors such as:

- Environmental factors (weathering, erosion, earthquake, moisture and drainage, vermin, invasive vegetation, contamitants and pollutants)
- Fire (wild fire, accidental fire, arson)
- Vandalism (deliberate damage)
- Visitor use (wear and tear through visitor numbers and use or inappropriate behaviour)
- Structural adequacy (instability due to deficiency of the original design or construction)
- Inappropriate use or development, or inadequate historic place management competency

This list tends to contain the types of negative external factors which we imagine could possibly “attack” our historic place now or at some time in the future. These are not the only threats to historic values however. Some risks may come in the form of our not taking advantage of an opportunity or failing to interpret the significance of the place to the public and its visitors. Risks of this type could include:

- Lack of an appropriate management structure and procedures
- Lack of use (without a compatible use a building may not be cared for or have access to resources for maintenance)
- Lack of interpretation (the heritage values of a place may be threatened if they are not understood and appreciated by managers, visitors and the public)

Risks to the public, visitors or users of a place are distinct from risks to its historic values however the two may be closely related. The historic values of a place may be threatened if inappropriate alterations or even demolition are proposed as ways of reducing the visitor risk.

Analysis of Risks

Once the risks to a particular place have been identified they can be analysed according to the following criteria:

- *Extent.* The physical or geographical extent of the risk. (eg: Does the risk threaten the whole of a building or site or some smaller part of it such as the panes of glass in a front window)?
- *Present impact.* The present effect of the risk. What is the actual impact of the risk on the place now?
- *Potential impact.* The possible or likely future impact.
- *Trend.* Whether or not the risk is constant, increasing or reducing over time.
Assessment

From the analysis an assessment can be made which identifies the risks which represent the most serious threat to a place or series of places within a park, region or the state.

Anderson’s Mill Example

Attempts to apply the assessment process to indigenous archaeological sites have been successful in producing a useful analysis. It appears that archaeological sites are particularly suited to this approach because of the relatively small number of site types and the often similar range of threats to which they are exposed. Application of the approach to more complex sites and buildings promises to be more difficult but several initial attempts have been made. Figure 1 illustrates a simple assessment of a building in a table form. Tables are a useful means of presenting risk assessment information and help to summarise and reduce the need for long and repetitive descriptions. In this case the subject of the assessment is the major significant building in a large complex of historic buildings. The assessment could however focus on particular significant element of a place or building or specifically on one or more of the cultural values of a place. A table plotting the values of a place against the level of risk would indicate the most significant values or elements which are assessed as being at highest risk. The implication is that resources are most needed at high risk high value places.

![Table](image)

<table>
<thead>
<tr>
<th>BUILDING FEATURE</th>
<th>RISK</th>
<th>Extent of risk</th>
<th>Present Impact</th>
<th>Potential Impact</th>
<th>Trend</th>
<th>Analysis of risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLOUR MILL</td>
<td>Visitor use</td>
<td>L</td>
<td>N</td>
<td>L</td>
<td>⬤</td>
<td>Present visitor numbers, areas of access and opening hours have low impact. Visitor numbers could increase in time but to date the impact of large numbers of visitors at special events has been very low.</td>
</tr>
<tr>
<td></td>
<td>Vandalism</td>
<td>H</td>
<td>L</td>
<td>H</td>
<td>⬤</td>
<td>Vandalism is a continuing problem that has a high potential for damage although to date it has generally been of nuisance value only.</td>
</tr>
<tr>
<td></td>
<td>Lack of use</td>
<td>L</td>
<td>M</td>
<td>H</td>
<td>⬤</td>
<td>Use can help gain resources for care and maintenance.</td>
</tr>
<tr>
<td></td>
<td>Fire</td>
<td>VH</td>
<td>N</td>
<td>VH</td>
<td>⬤</td>
<td>Lack of adequate water supply and dedicated fire protection make the mill complex particularly vulnerable to fire which has the potential to completely destroy the building.</td>
</tr>
<tr>
<td></td>
<td>Structural Adequacy</td>
<td>M</td>
<td>L</td>
<td>M</td>
<td>⬤</td>
<td>Roof structure requires reinforcement to stabilise rotating pulleys.</td>
</tr>
<tr>
<td></td>
<td>Environmental Factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Maintenance of weathered paint finishes and mortar joints is required to protect timber and masonry. Past moisture penetration has led to deterioration of some upper floor structural timbers. Vermiculite include termites that have been detected in the past in ground floor timbers and possums that occupy all levels of the mill. Appropriate repairs and maintenance procedures may address all these risks.</td>
</tr>
<tr>
<td></td>
<td>Management actions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Potential risk from management actions include inappropriate maintenance practices and incompatible development.</td>
</tr>
</tbody>
</table>

**ASSESSMENT**

The highest risk to the Mill is from fire which could result in its complete catastrophic loss. In the medium to long term the risk from the lack of maintenance plan could cause the steady loss of value over time. The Mill has some potential for adaptation for a suitable use however a risk to its values could arise if such development was carried out in an inappropriate manner.