

# IDENTIFYING FEATURES OF EFFECTIVE EMERGENCY RESPONSE PLANS

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**ABSTRACT**—Twelve emergency response planning manuals were reviewed to determine the characteristics of effective emergency response plans. Emergency plans were categorized as threat response plans and management response plans, depending on their content and structure. Primary characteristics of each type are discussed using five case studies. Based on the distinctions, strengths, and weaknesses of each type of plan, recommendations are made to aid institutions in selecting the most appropriate approach.

**TITRE**—Les caractéristiques des plans d'intervention d'urgence efficaces **RÉSUMÉ**—Douze manuels de planification d'intervention en cas d'urgence ont été examinés afin de déterminer les caractéristiques qui rendent efficaces les plans d'intervention. Selon leur contenu et structure, les plans d'urgence ont été classés comme des plans de réponse contre une menace et des plans de gestion de réponse. Les caractéristiques principales de chaque type sont discutées au moyen de cinq études de cas. Fondées sur les distinctions, les forces et les faiblesses de chaque type de plan, des recommandations sont faites pour aider les institutions à choisir l'approche la plus appropriée.

**TÍTULO**—Identificación de características de planes de respuesta a emergencias efectivos **RESUMEN**—Se revisaron doce manuales de planificación de respuesta a emergencias, para determinar las características de los planes efectivos. Dependiendo de sus contenidos y estructuras, los planes de emergencia fueron categorizados en: planes de respuesta a amenazas, y planes de gestión de la respuesta. Las principales características de cada categoría se discuten sobre la base de cinco casos de estudio. Basándose en las diferencias, fortalezas, y debilidades de cada tipo de plan, se dan recomendaciones para ayudar a las instituciones a que elijan el enfoque más apropiado.

**TÍTULO**—Identificação de características de Planos de Emergência eficazes **RESUMO**—Doze manuais de Planos de Emergência foram revistos para determinar as características de Planos de Emergência

eficazes. Os Planos de Emergência foram classificados como planos de resposta a ameaças e como planos de resposta de gestão, dependendo do seu conteúdo e estrutura. Características primárias de cada tipo foram discutidas utilizando cinco casos de estudo. Baseadas nas distinções, forças e fraquezas de cada plano, foram feitas recomendações para auxiliar as instituições na seleção da abordagem mais apropriada.

## 1. INTRODUCTION

The world has dealt with threats and large-scale natural disasters throughout history. Recent earthquakes in Haiti destroyed or damaged museums, libraries, and archives (ICBS 2010). Man-made disasters including arson, acts of terrorism, and war are also of concern to cultural institutions around the globe (IIC 2008, 2009). Having an effective Emergency Response Plan (ERP) is a minimum standard practice for professional museum operations (MLA 2004; AAM 2007; Matthews et al. 2009). An ERP allows staff to respond effectively to emergencies, thus allowing for evacuation or protection of collections and buildings with no injuries to staff or visitors. A successful ERP will mitigate the extent of a disaster that develops from an emergency situation. As there is a wide variety of advice on how to approach this essential task, this paper classifies the types of ERPs as well as characterizes their strengths and weaknesses with the goal that an ERP is most effective when it is personalized and tailored to the institution's needs.

This study evaluated advice offered within informational manuals used by cultural institutions to aid in the production of emergency plans as well as the content and application of emergency plans drawn up by museums and libraries. As part of the study, twelve representative English-language emergency response manuals were selected and analyzed to identify their priorities. As patterns of common features emerged, two broad categories of ERPs were defined: threat response and management response. The effectiveness of these two types of ERPs was evaluated by

considering five case studies of cultural institutions that had experienced an emergency situation. These represented a selection of respondents to a request circulated on the electronic discussion forum Conservation DistList. The respondents participated in structured interviews regarding their experience with a disaster. Other responses were received but were not selected for the paper because of confidentiality issues or level of detail available. Most information identifying the five case study institutions has been removed due to its sensitive nature.

## 2. APPROACHES TO EMERGENCY PLANNING

Understanding alternative approaches to emergency response planning is essential to creating a plan that fits an institution. Just as all institutions vary, the two plan types discussed below vary in content and flexibility.

### 2.1 THREAT RESPONSE PLANS

Threat response plans are defined both by their structure and content. This study characterized a threat response plan as an emergency plan that is developed from risk assessments and therefore focuses its response and recovery to these specific threats. For example, if a museum identifies flood as a major risk, the plan may contain detailed and specific guidance on how to respond to floods.

Plans categorized as threat-based have specific roles allocated for staff with the occurrence of each identified threat. These plans are linear and require each action be carried out in sequence; failure of one person or team to perform assigned tasks could negate the entire plan. Because of this requirement, most threat response plans have more than one person assigned to each role in case a designated staff member is absent.

Step-by-step procedures are useful to institutions that are subject to recurring threats; however, they do not allow flexibility to respond to unexpected events that may occur during an emergency. Additionally, changes in an institution that have not been included in the ERP may generate significant deficiencies in the response. However, if staff become aware of specific omissions prior to an emergency, they can rectify the plan. Thus, testing of a threat-based plan may help to reduce the significance of oversights, but the lack of flexibility in responding to contingencies will remain a general weakness.

A committee of people creates most threat response plans. The committee structure allows an equal voice to multiple departments and can promote better understanding between staff with different areas of responsibility. Additionally, threat response plans can be systematically created by institutions regardless of their size. Because response roles are clearly defined in the ERP, the response roles allow institutions with multiple buildings and departments to map actions and interrelationships simply and clearly.

Threat response plans also allow untrained staff to respond to emergencies. Since some institutions experience a high rate of staff turnover, these predetermined job descriptions and step-by-step instructions enable anyone with knowledge of the plan to respond. However, in many cases, untrained staff will be less likely to make effective decisions when an emergency does not go according to plan, possibly leading to significant damage. Thus, only institutions that are likely to experience recurring emergencies are likely to find threat response procedures most appropriate.

### 2.2 MANAGEMENT RESPONSE PLANS

Management response plans constitute a broader set of strategies. These plans are characterized by their reliance on an individual's or group's ability to assess a situation and react accordingly. Individuality is the essence of the management response plan, and as a result, it is infinitely more flexible and adaptable than the threat response plan. Just like threat response plans, many management plans begin with a risk assessment; however, in this case, the assessment is mainly used for risk reduction and prevention, rather than response.

Manuals that guide institutions towards a management approach often describe four stages of emergency planning: prevention, preparedness, response, and recovery. Interestingly, these manuals were more likely to encourage cultural institutions to involve insurance companies in the planning process. This is in keeping with the design of the response plan being structured around specific people and communication rather than specific processes and practices. Another criterion that defines a plan as management response is an emphasis on contact information (ICA 1997; Soderlund 2000; Kahn 2002), rather than on specific procedures for anticipated emergencies.

Management response plans rely heavily on staff knowledge during an emergency, and as a result, training staff to respond instantly and decisively is

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essential. Highly trained staff, with knowledge of their collections, threats, and surroundings, will be able to make insightful decisions during an emergency situation. This ability to respond in a unique way to the situation, rather than being constrained to a formulaic reaction, could minimize damage to collections and possibly save lives.

Management response plans can be structured to fit a larger institution and can be flexible enough to accommodate a small volunteer-run institution. This flexibility may make management response plans difficult to create. Institutions with a large number of employees may find it difficult to create a generic plan that fits the needs of every department. Similarly, because of their individuality, manuals recommending this approach cannot give detailed instructions on the content of emergency plans. This lack of instruction may make it difficult for some committees to reach agreement on what to include in their plan.

### 3. EMERGENCY RESPONSE PLANS: CASE STUDIES

Five case studies are described below to illustrate how different planning approaches affect the ERPs performance during real-life emergencies.

#### 3.1 MARITIME MUSEUM, UNITED STATES

The maritime museum is located on a peninsula along the east coast of the United States. The museum is made up of many buildings, fifteen of which are public. The permanent display comprises maritime artifacts, watercraft, and oral history collections. On September 18, 2003, Hurricane Isabel made landfall on the east coast of the United States. In the area of the maritime museum, the 1.8 m storm surge caused severe flooding of the town and the museum. Half of the buildings on the museum's eighteen-acre campus were flooded.

The museum's plan consisted of threat-specific instructions, including hurricanes. Before the hurricane made landfall, the museum activated its threat response plan. The plan outlined the job of each staff member and specified a leader. The staff followed the plan and performed their allocated tasks. The preventive measures taken by the staff resulted in evacuation of collections from buildings before the hurricane hit, limiting the recovery process to buildings and infrastructure. The only collections to be damaged as a result of flooding were housed in a building that was constructed after the ERP was created. The ERP

had not been amended to include instructions for the protection of this building, nor for the evacuation of the collections housed in this building, which were submerged in flood water and required conservation attention following the storm. Despite this oversight, the collections in the building were salvaged.

The museum evaluated the performance of its plan after this disaster and made revisions. The structure of the plan remained the same, but changes were made to address the oversight. The only other major change to the plan was the removal of certain collection-specific recovery guidelines.

The coastal location of the maritime museum makes it a prime target for natural flooding. Therefore, inclusion of flood- and hurricane-specific instructions in the ERP was beneficial. The plan performed as expected and is a good example of the strength of threat response plans; however, the staff's strong reliance on the plan resulted in damage to collections for which explicit instructions had not been included. Had the staff been trained to critically evaluate their actions during the response, damage to these collections may have been avoided.

#### 3.2 HISTORY MUSEUM, NEW ORLEANS, LOUISIANA, UNITED STATES

On August 29, 2005, Hurricane Katrina made landfall in Southeast Louisiana after crossing the Florida peninsula. Flooding from the storm caused levee breaks and a complete breakdown in the infrastructure of the southeastern region of Louisiana, including the city of New Orleans (NOAA 2006).

The museum's threat response plan was activated prior to the storm making landfall and the preventive measures laid out in the ERP were initiated. The museum staff had practiced these procedures and were initially able to perform without incident. The staff were then evacuated from the museum and their homes, with the exception of a member of the maintenance staff who voluntarily remained in the museum. This gentleman was able to ensure the safety of the collections and the building, with the exception of minor damage caused by looters.

Due to significant health hazards posed by the condition of the city of New Orleans, staff were not allowed to return to their homes or the museum for more than a month after the hurricane had passed. Communications in the area were completely disrupted which restricted contact with

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the maintenance worker on site and hindered the museum from conducting necessary recovery activities, such as gaining financial and volunteer support. This also impeded the museum's ability to recover from the disaster in a timely manner.

Once the museum reopened, the staff reevaluated the ERP. The communications section of the plan received the most attention. Procedures were established to enable communication and the continuity of business in the event of prolonged evacuation and total failure of normal communications systems. Building security was also strengthened to protect against looting and civil disorder.

The museum's ERP had a combination of threat response procedures and staff training that enabled them to respond to the hurricane and the resulting emergencies to the best of their abilities. The threat response procedures helped save collections and the maintenance staff person was able to mitigate other emergencies based on experience and knowledge.

### 3.3 MUSEUM AND ART GALLERY, WALES, UNITED KINGDOM

When torrential rains led to severe flooding in the city, the museum and art gallery suffered significant flood damage. The museums' gutters and drains were blocked by autumn leaves and were unable to cope with the downpour; flooding occurred on the ground floor in the storage area. The staff had no warning and were unable to evacuate collections prior to the deluge. Existing flood prevention measures were negated when the water reached a depth of over half a meter. Museum staff had to wait until flooding subsided to respond to the emergency. For five days, staff worked in protective clothing to evacuate collections from contaminated water.

The management response plan specified a disaster response team. This team was integral to the implementation of the recovery process. After the flood, the museum staff reevaluated the plan and made slight changes. In the original plan, one person had been placed in charge of making decisions and negotiating with the relevant local government department. During the emergency, this individual became overwhelmed, which caused many decisions to be rushed. The museum staff concluded that more time spent on the initial assessment of the situation would have optimized later decisions and requests for assistance. The museum also improved flood protection with the installation of additional flood barriers.

This example shows the extent to which management response plans rely on staff. The inclusion of the local government in their ERP planning process may have provided more options and a better position to make critical decisions.

### 3.4 HISTORIC LIBRARY, UNITED STATES

During a renovation project, the library's fine art collection was housed in a temporary off-site storage facility when a fire began in an adjacent building. The facility housing the fine arts collection did not have fire suppression systems. The local fire department responded to the emergency and saturated the building with water in order to save its contents. The collection did not burn but did suffer significant water and smoke damage.

The special collections librarian described the library's management response plan as extremely flexible. They had utilized FEMA's *Emergency Response and Salvage Wheel*, and had established a phone tree for staff. The director of the library was the plan leader and, with the help of the head librarians, used her knowledge to respond to the emergency.

The fire department allowed members of staff into the building, accompanied by fire fighters, immediately after the fire was suppressed. All collections housed in the affected building were removed and stabilized within 48 hours. It was impossible to follow the traditional recovery procedures on the *Emergency Response and Salvage Wheel* as most of the material had been packed for off-site storage and space was extremely limited. Recovery procedures were modified to reflect these limitations.

It was the staff's ability to make decisions and tackle every situation as it arose that ensured the safety of the collections. According to staff, the paper-based plan is the "first step, but someone needs to be able to go forward without it if needed" (Long 2006). It was this attitude that enabled the team to prevail.

### 3.5 HISTORIC HOUSE, ENGLAND, UNITED KINGDOM

The flood was discovered in a room on the third floor of the house that is closed to visitors and infrequently accessed by staff. A staff member checking on another matter entered the room and noticed water cascading down the walls. The source of the flood was traced to the fire hose and building maintenance was contacted to turn off the water. Before

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the flooding was stopped, the water had travelled down through three floors.

A staff member sounded a general alarm calling in all available personnel, from sales staff to gardeners. The primary response was focused on the rare books in the third-floor room. A plastic sheet was used to protect the books from further damage and the books were wrapped in acid free paper following instructions set out in the ERP. The house restaurant was called upon to clear out their freezer for the books. Later the books were sent to the British Library for treatment.

The house had a classic threat-based ERP with two instruction “wallets”: one for flood and the other for fire. The flood wallet dealt specifically with floods on the ground floor of the house. Because the flood began in the attic, most of the information in the flood wallet was not relevant. The successful response was due to the ability of the staff to work together and make decisions. While this institution had a threat response plan, the staff followed a management response strategy in this emergency.

Since this flood, changes have been made to their ERP. The flood and fire wallets remain in place since they are a requirement of the parent organization; however, the house staff now follow a protocol similar to a management response plan. Job descriptions do not appear in this plan as the personnel on site will always be different; thus, no single person is predetermined to be in charge. A list of necessary tasks is created at the outset of the emergency and these are divided by the senior responder on a first-come, first-served basis. Evacuation priorities are listed in every room with detailed locations of each item, thus ensuring that the proper items will be removed, no matter who is conducting the evacuation. Preventive measures were also updated as a result of this emergency. A new water tank and pump were placed outside the house and water is now pumped from this tank into the building.

### 4. CHOOSING THE BEST APPROACH FOR THE INSTITUTION

These case studies prove that both types of plans can be successful. While in each of the cases, damage to collections or buildings was sustained, the amount of damage was limited by the actions of the staff. In most cases, their actions were made possible by the emergency plan, thus proving that training for all staff in an institution is vital for effective disaster

management (Matthews 2007). Based on these outcomes, neither approach is to be rejected; rather, it is important for each institution to find the plan that best suits its needs. The most appropriate ERP for an organization will depend on its operating context and risk profile. The choices can be refined by considering the staffing levels, how the institution will go about creating the plan, and what resources are available to maintain ERP training.

#### 4.1 DEFINING THE INSTITUTION

The first step in determining what type of plan to create is to understand the institution as a whole. Even for staff who know their institutions, this pause for review is an important step in the planning process and should not be neglected. Some important questions to ask: How big is the institution? How many buildings? How many collections? How many members of staff? What type of staff, i.e., volunteer, maintenance, trained, untrained? Are the staff trained in emergency response? What is the turnover rate for staff? How diverse is the collection? Are there recurring threats to the institution? How much time and resources can be put into the creation of this plan?

One mechanism that can be used to review the institution is to conduct a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis. This strategic process can assist in the plan development by auditing the institution and its environment thereby identifying and evaluating the institution’s strengths and limitations as well as its opportunities and potential threats. This first stage in the planning process is usually followed by further targeted planning work. The institution should focus on its collections and staffing along with its other resources, location, and environment, in order to capture the critical variables for mapping the ideal approach to disaster planning. Tools available to aid an institution in conducting a successful SWOT analysis can be found in the resources list.

##### 4.1.1 STAFFING

Staffing will have a great impact on the type of plan created. The step-by-step instructions found in a threat response plan will work well for large, hierarchical institutions and for institutions that have high levels of staff turnover. Management response plans fit well with institutions that have high staff retention rate. Knowledge of staff levels, training, and retention are critical to evaluating the usefulness of each type of ERP.

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Table 1 SWOT Analysis of Threat Response Plans

<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• Simpler to organize for large groups</li> <li>• Organized evacuation procedures</li> <li>• Focus on threats gives focus to the process</li> <li>• Less need for expensive training</li> <li>• Easy to use for recurring threats</li> <li>• Staff feel like they are in control</li> </ul>	<p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>• Complex risk profiles lead to complex plans</li> <li>• Interdependence of committees</li> <li>• Must follow each of the steps in creating the plan</li> <li>• Missing information from the plan means a problem with response</li> <li>• Time-consuming to create</li> </ul>
<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• Untrained staff can respond to emergencies</li> <li>• Clear lines of interaction between different departments in the planning process</li> <li>• Increased interaction between departments</li> <li>• Increased interaction with community responders</li> <li>• Increased knowledge of available resources</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>• More damage may be caused by skipped steps</li> <li>• Doesn't allow for contingencies</li> <li>• The scale of response plans is set by the nature of the threat rather than by the resources available</li> <li>• Blindly following steps may cause more damage</li> </ul>

Management response plans require that every member of the staff be able to make important decisions during an emergency. In an institution with high employee retention, this level of training can be justified; however, it becomes difficult to justify the expense when staff may turn over multiple times without using the training (Glance et al. 1997). Institutions with high staff turnover or a lower budget for training may decide, for pragmatic reasons, that specific and detailed advice is preferable, and that the value of certainty outweighs the danger of omissions.

Professional advisors operating within a large group of smaller volunteer-run museums may find the threat response route a less intimidating introduction to emergency planning, thus allowing organizations to systematically generate a series of action plans. Staff should be able to create concrete action lists quickly and thus generate confidence that effective action can be taken in an emergency. Following the establishment of such a plan, the institution may be able to evolve from a specific set of generic threat response instructions to a more management style approach. Indeed, when institutions with many volunteer and/or part-time staff begin to test their

emergency response, it may become apparent that the on-site presence of the respondents identified in the plan cannot be guaranteed. As staff practice their response, they may begin to feel confident enough to produce a more management response style of plan that empowers decision making, rather than specifying certain actions to be followed.

### 4.2 MAKING THE CHOICE

The information gathered in the process of understanding the institution will be the key to choosing the right plan when it is compared to the strengths and weaknesses of each type of plan as shown in the SWOT analyses found in tables 1 and 2. A review of the advantages and disadvantages shows how the strengths and weaknesses inherent in each type of plan fit with the strengths and weaknesses of the institution. Do the strengths of the institution compensate for the weaknesses found in one or the other of these plans? Does the institution benefit from the opportunities presented by one type of plan more than the other? There will be areas where both plans are a good fit; therefore, it is advisable to look for a trend toward one type of plan over another.

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Table 2 SWOT Analysis of Management Response Plans

<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• Staff can make decisions based on the needs of the institution</li> <li>• Any size institution can create this plan</li> <li>• Prevention reduces likelihood of disaster</li> <li>• Creating the plan encourages communication with external stakeholders</li> </ul>	<p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>• No simple model to follow</li> <li>• May omit vital information</li> <li>• Attachment to collections may cloud decisions</li> <li>• Training is expensive</li> <li>• High staff turnover undermines the response strategy</li> </ul>
<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• The plan can start from the resources available for response</li> <li>• The response will adapt to unexpected situations</li> <li>• Increased interaction with community responders and vendors</li> <li>• Increased knowledge of available resources</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>• Without training staff feel helpless and may panic</li> <li>• Fewer specific instructions for less experienced staff</li> <li>• In larger organizations some groups may feel disenfranchised from response</li> </ul>

### 4.3 HYBRID PLANS

Plans may not fall exclusively into a specific category. Institutions may be able to create a hybrid plan, picking the most useful aspects of threat-based planning while bringing in facets of management response planning. It is useful to recognize the differences between the approaches in order to pick an appropriate format, rather than evolve a plan without reflection on its essential nature. An organization for which the management response approach is chosen may also have identified, through risk assessment, a small number of high probability, high impact risks. For these risks, specified responses could be included in a management response plan. That said, disasters often arise precisely because the emergency develops into a disaster as a result of a string of unexpected circumstances (Henderson 1995). This may result in the planned specific response being inadequate for the occasion. A plan, which is largely threat-based, could also include a more management-style generic response, to be used if an emergency arises that does not match the scenarios predicted.

### 5. FIRST STEPS IN EMERGENCY PLANNING

#### 5.1 ESSENTIALS OF EMERGENCY RESPONSE PLANS

There are certain things that all ERPs should include. The primary purpose of an ERP is to save lives; therefore, every plan should contain evacuation procedures, incorporating secondary routes in case initial routes are blocked. Other important aspects of a good ERP are the supply and contact lists. Having this information will help make any response more efficient. The case studies showed that the amount of damage was limited by staff actions, proving that training for all staff in an institution is vital for effective disaster management (Matthews 2007). All plans should be updated in response to any significant change in the organization, and reviewed on a regular basis, either annually or biennially, to ensure they remain valid.

#### 5.2 RISK ASSESSMENT

An essential early step in the development of the ERP is carrying out a risk assessment for the site. The scope of the risk assessment should match the scope

of the emergency plan. If the plan is intended to set out procedures for the protection of collections, then risks to collections must be considered (Waller 1994). If the scope of the plan includes threats to staff and visitors, reputation, or operations, then a broader risk register should be created.

Once hazards have been identified, and the likelihood and impact of these events has been considered, the organization will have a register of the risks to collections or to the institution as a whole. Control measures needed to reduce the likelihood or impact of an emergency can then be used to inform the ERP. It is likely that the threats identified can be divided into three groups: 1) gradual and constant, 2) severe and sporadic, and 3) catastrophic and rare (Waller 1994). For most organizations, the gradual and constant risks would be the subject of the collections management plan, so only the severe or catastrophic events would inform the ERP.

If a cultural institution has identified specific threats to their collections that have both a high probability of occurring and a corresponding high probability of a major impact, then the inclusion of at least some of the characteristics of a threat response plan would be advisable. These case studies demonstrate how valuable a threat response plan can be when faced with specific recurring threats.

Having identified specific threats, an organization can develop a list of tasks to respond to them. This part of the plan will also require that the resources, people, space, equipment, and expertise needed for these responses are identified and located. It is possible that an organization could find that the response strategy generated by this approach cannot be matched by their available resources. In this case, a management response plan may be more effective. Starting with identifying who in the organization will respond to any emergency and how, the focus of the response should be on what can be delivered rather than what they should deliver.

The risk assessment may identify a number of risks that can be mitigated by reducing either their likelihood or the potential impact on the institution. Reducing these risks will normally involve good collections management practice, such as increasing inspections or maintenance, and improving communication with stakeholders. If the institutional response to the risk register has this focus, then it is likely that a management response plan would be the best approach.

### 5.3 GENERATING THE PLAN

Management response plans are likely to be successful when an individual or small group has strong ownership of the planning process and the confidence to take the lead. This self-confidence will only be effective if the plan is accepted and supported by senior management. Without a shared sense of responsibility, the planning process may result in a small group of core responders with the confidence to enact the plan, but with the remainder of the staff marginalized and unable or unwilling to participate in a response. For a management response strategy to be successful in a large institution, the core responders must have fostered the participation of the whole team.

Threat response plans have a more formal structure that often flows easily from larger, more hierarchical organizations used to operating by committee. Although logical, the plans will be fairly comprehensive and more detailed than that of the management response and it will work well unless the risks to the collection are too narrowly focused. A flood through the roof and a flood from the fire hydrant will require different response instructions. If there is also a danger of flood from a water tank, flood from the washrooms, or flood from a local river, then the plan will have five sets of responses for flood alone; still more could be possible for separate sites and different times of the day or year. As a result, the plans can be time-consuming to produce, although each element of the plan would be usable if the emergency predicted were to occur.

Management response strategies require the development of contact lists and communication with stakeholders such as insurers, emergency services, resilience forums, and specialist responders. Staff who have to explain core information repeatedly may find the initial communication with these partners time-consuming, but it will be fruitful to expose the plan to scrutiny by partners with different priorities. Because each plan is unique to an institution, other institutions' plans may be of limited use as models; therefore, a management response plan is usually harder to create than a threat response plan. If the organization's staff are less confident or less highly motivated at the beginning of the planning process, they may find it easier to follow the more ordered approach of a threat-based plan. The process of constructing a threat response plan follows simple steps of imagining an emergency and then planning how to respond to it; it is relatively simple to conceive of all the actions to be included. A management response plan will require conceptual



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response actions such as communication, managing resources, and ensuring safety. With less concrete scenarios to plan for, it is possible that key areas would be omitted. For either approach, training will reduce problems of omission.

### 5.4 TRAINING

These case studies illustrate the flexibility and adaptability of the management approach. As none of the emergency situations went according to plan, it was the staff's ability to make on-the-spot decisions that limited damage to the collections. The requirement for highly trained staff is costly and many organizations may have to strike a balance between the cost of the training and the flexibility of the plan. Established staff may have personal loyalties to collections; therefore, management response plans will require training to ensure that the assessment of priorities follows institutional, rather than personal, values.

While threat response plans are ideal for untrained staff, drills are required to ensure that the staff are able to understand and implement the actions assigned to them. In addition to testing the staff, these drills may identify omissions and errors in the plan. It is particularly useful to test the execution of essential precursor steps that must be taken before subsequent steps can begin. For example, for a threat response plan in which a specific member of staff must conduct an on-site risk assessment before premises can be entered, a drill for a multi-location disaster would reveal that having a single person to execute this step at multiple locations could severely reduce the effectiveness of an otherwise well-planned emergency response.

## 6. RESOURCES

Twelve of the manuals available to aid institutions in creating either type of plan have been summarized in chart form (tables 3, 4). Each manual focuses on different aspects of planning. For example, *An Ounce of Prevention...* (Wellheiser and Scott 2002) focuses on prevention and preparedness, while the Southeastern Registrars Association's *Steal This Handbook!* (Lord, et al. 1994) focuses on threat-specific prevention and response. Some manuals, like *Building an Emergency Plan* (Dorge and Jones 1999), give detailed, step-by-step instructions on how to create a plan, while others, like the International Council on Archives' *Guidelines on Disaster Prevention and Control in Archives* (1997), provide information about possible

threats and options on preventing or responding to these threats.

In addition to manuals such as these, there are other resources available to institutions creating ERPs. Local agencies can provide information on location-specific threats, as well as possible equipment vendor sources. Among the greatest resources institutions can utilize are their local emergency responders. Developing a relationship with emergency responders and local agencies will help improve their response and thus the protection of collections during an emergency situation.

A list of useful websites, books, and articles is provided in Further Reading. Of these, Conservation OnLine, hosted by AIC, offers a good starting point to researching resources. US-based sources and networks include the Federal Emergency Management Agency (FEMA); its series of articles about emergency response planning provides useful background information on emergency preparedness for cultural heritage institutions.

Heritage Preservation has a Heritage Emergency National Task Force, which, in addition to providing training and planning assistance, provides tools for preparing a plan, including site questionnaires, risk prioritization worksheets, and walk-through checklists. Heritage Preservation also sells preparedness aids like the *Field Guide to Emergency Response and the Emergency Response and Salvage Wheel*. On their website, the Northeast Document Conservation Center has an excellent preservation resources section, which includes several articles on emergency preparedness.

## 7. CONCLUSION

Developing an effective ERP that fits the needs of the institution is undoubtedly a very effective use of a cultural institution's resources. However, it is important not to get bogged down looking for the ideal plan; no plan is perfect (Home Office 1992). It is also important to remember that it is unlikely that anyone will have time to read an emergency plan during the actual event. The success of a plan will come from the staff already knowing exactly what to do, or having someone who can tell them what to do, in the event of an emergency (Baston 2007). In order for any plan to prevent an emergency from turning into a disaster, it must be tested, evaluated, and updated frequently to ensure its relevance and impact.

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Table 3: Core Features of Threat-Response Emergency Response Manuals

**KEY**

Primary = Primary Actions are integral to the plan. These functions cannot be left out without compromising the plan.

Secondary = Secondary Actions are not required for the proper functioning of the plan, but may be added as an option to further enhance the plans usability.

✓ = General Actions

<b>Threat-response planning manuals</b>						
<b>Contents in order of frequency of appearance</b>	<b>Ball 2003</b>	<b>CPP 2005</b>	<b>Dorge 1999</b>	<b>Halsted 2005</b>	<b>Lord 1994</b>	<b>Wellheiser 2002</b>
<b>Training</b>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>
<b>Supply list</b>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>
<b>Prevention</b>	✓	✓	✓	✓	✓	✓
<b>Response</b>	✓	✓	✓	✓	✓	✓
<b>Recovery</b>	✓	✓	✓	✓	✓	✓
<b>Contact list</b>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>
<b>Threat risk assessment</b>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>
<b>Job outlines</b>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>
<b>Flood response</b>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>
<b>Fire response</b>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>
<b>Other threat response</b>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>
<b>Recovery priorities</b>	✓	✓	✓	✓		✓
<b>Threat recovery</b>	✓	✓		✓	✓	✓
<b>Fire prevention</b>	✓		✓	✓	✓	✓
<b>Flood prevention</b>	✓		✓	✓	✓	✓
<b>Building prevention</b>		✓	✓	✓		✓
<b>Evacuation plans</b>			✓	✓	✓	✓
<b>Other threat prevention</b>			✓	✓	✓	✓
<b>Finance (insurance)</b>	✓	✓		✓		✓
<b>Collections risk assessment</b>	✓		✓			✓
<b>Collection recovery</b>	✓		✓			✓
<b>Hierarchy</b>			✓			✓
<b>Management recovery</b>			✓			✓
<b>Evacuation priorities</b>			✓		✓	
<b>Management-response prevention</b>	✓	✓				
<b>Building recovery</b>	✓		✓			
<b>Post event evaluation of plan</b>	✓	✓				
<b>Management-response</b>						

## IDENTIFYING FEATURES OF EFFECTIVE EMERGENCY RESPONSE PLANS

Table 4: Core Features of Management-Response Emergency Response Manuals

<b>Management-response planning manuals</b>						
<b>Contents in order of frequency of appearance</b>	<b>Anderson 1985</b>	<b>NLA 2003</b>	<b>Buchanan 1988</b>	<b>ICA 1997</b>	<b>Kahn 2002</b>	<b>Söderlund 2000</b>
<b>Training</b>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>
<b>Supply list</b>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>
<b>Prevention</b>	✓	✓	✓	✓	✓	✓
<b>Response</b>	✓	✓	✓	✓	✓	✓
<b>Recovery</b>	✓	✓	✓	✓	✓	✓
<b>Contact list</b>	<i>Primary</i>	✓	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>
<b>Building prevention</b>	✓	✓	✓	✓	✓	✓
<b>Management-response response</b>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>
<b>Collection recovery</b>	✓	✓	✓	✓	✓	✓
<b>Collections risk assessment</b>	✓		✓	✓	✓	✓
<b>Recovery priorities</b>		✓	✓	✓	✓	✓
<b>Management-response prevention</b>		<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>	<i>Primary</i>
<b>Finance (insurance)</b>	✓		✓	✓	✓	✓
<b>Fire prevention</b>	<i>Secondary</i>		<i>Secondary</i>	<i>Secondary</i>	<i>Secondary</i>	
<b>Flood prevention</b>	<i>Secondary</i>		<i>Secondary</i>	<i>Secondary</i>	<i>Secondary</i>	
<b>Threat risk assessment</b>		✓	✓	✓		✓
<b>Other threat prevention</b>	✓		✓	✓		✓
<b>Job outlines</b>		✓			✓	✓
<b>Fire response</b>		<i>Secondary</i>			<i>Secondary</i>	<i>Secondary</i>
<b>Flood response</b>		<i>Secondary</i>			<i>Secondary</i>	<i>Secondary</i>
<b>Other threat response</b>		<i>Secondary</i>			<i>Secondary</i>	<i>Secondary</i>
<b>Post event evaluation of plan</b>		✓			✓	✓
<b>Building recovery</b>					✓	✓
<b>Evacuation plans</b>		✓				✓
<b>Evacuation priorities</b>		✓				✓
<b>Threat recovery</b>			✓			
<b>Management recovery</b>					✓	
<b>Hierarchy</b>			✓			

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