

## **INTEGRATED PEST MANAGEMENT GENERAL POLICY**

The Baltimore Museum of Art adheres to the principles and practices of Integrated Pest Management (IPM) to prevent *or* control pests, as appropriate, in the museum environment. This is in direct support of The BMA's Mission Statement regarding the preservation of its art collection.

### **GOALS AND OBJECTIVES**

Insects, spiders and rodents directly and indirectly pose a threat, through biological degradation, to museum collections. The Integrated Pest Management program at The Baltimore Museum of Art focuses on correcting conditions that encourage pests by reducing the amount of food, water and harborage that they need to thrive. Practices such as sanitation, monitoring, education and excluding pests through structural repairs are implemented to control pests and to reduce or eliminate the use of pesticides in the museum. The IPM program at The BMA is designed to manage and reduce the risk to the art collection and to provide a more healthful and safe environment for both visitors and staff.

### **PROCEDURE**

**Introduction:** The Integrated Pest Management Program is a risk management program that focuses on prevention and employs a combination of pest management strategies to reduce the risk of pests and related damage. The material knowledge and art handling expertise of the conservation staff will be used to manage and reduce the risk of damage to the art collection from pests and any resulting interventions in control of pests. A member of the Conservation Department functions as IPM program manager and provides IPM services to all art-containing areas within the museum and to any adjoining areas that pose an increased threat to art-containing areas (e.g. the Museum Shop with its proximity to the AAAO collection's vault). The IPM program manager will work with and advise various other staff and volunteers of their responsibilities in support of the program. The Facilities Manager and Landscape Manager act as point persons for pest management in areas not containing art and for the exterior of the building.

The IPM program manager belongs to an Integrated Pest Management Working Group that meets once a year, at the American Museum of Natural History, in New York City. This group is made up of collection managers, conservators and other professional interested in issues surrounding the implementation of IPM in museums and other collection holding institutions. They are in the process of developing a website ([www.museumpests.net](http://www.museumpests.net)) that will be used as an IPM resource. The IPM program manager has access to the expertise in the working group through out the year.

## I. IPM Responsibilities at The BMA:

A) **Office and work areas:** All staff members and volunteers are responsible for maintaining individual work areas in such a way so as not to contribute an increased pest risk to the museum environment. Food consumption in office and work areas should be minimized, with food requiring appropriate storage and clean up by the responsible individual. It should be noted that covered trash cans are placed in designated food spaces such as the Staff Support/Kitchen Area and next to the vending machines. Both are intended for garbage and are emptied on a daily basis. Garbage should only be placed in sealed/covered trash cans. Each staff member is responsible for cleaning up the kitchen space - even small crumbs on the counter tops, sinks, and floors are capable of drawing pests.

Office and work areas should be kept free of dust, debris and clutter. The facilities staff should maintain a regular schedule for cleaning office and work areas. Every staff member should insure that his or her office or work area is cleaned on a regular basis.

As live plant material, cut or potted, may pose pest-related risks, responsible use of these materials in office and work areas is essential. Plants and flowers should be inspected for pests, kept in appropriate containers, and disposed of in the same manner as food waste.

All staff members are responsible for reporting pest sightings in art-containing spaces directly to the IPM manager. The pest should be captured if possible and a pest sighting form, available from the IPM manager should be completed. Pest sightings in non-art containing spaces should be reported to the Facilities Department.

B) **Vaults:** Conservators, registrars and curators who have access to art storage vaults are responsible for assuring that proper housekeeping measures are in place. As even dust is capable of providing adequate support for some types of pest, appropriate housekeeping is a major part of maintaining an environment that is a deterrent to pest activity. Food and drink are not permitted in art storage vaults.

C) **Examination Room:** As active pest problems in loan objects or new accessions may pose a threat to the existing collection, care must be taken prior to moving new art into spaces containing existing art. An examination area, designated at the BMA as “ER” for “Examination Room”, is used for this purpose. Incoming art should be assessed prior to being moved into the existing collection-containing spaces. A conservator should be consulted when a potential pest problem is seen.

D) **Galleries:** All museum staff members and volunteers are responsible for reporting pest problems in the galleries. Food, drink and live or cut plants are only permitted during approved special events and only in designated areas. The designated special event

areas at The BMA are: the Woodward Gallery, Garden Room and Fox and Schaefer Courts and the Meyerhoff Auditorium. Guidelines for the use of these spaces are published in the Special Events Rental Brochure, available from the BMA Office of Special Events. Authorization to serve food or drinks or to bring plant materials into spaces other than the designated special event areas within the museum must be obtained from the Senior Management Team. Food and drink in exhibition galleries containing borrowed objects is always prohibited.

At approved special events, the staff member in charge will be responsible for minimizing pest-related risks associated with the introduction of food, drink, or plant materials into the museum. These responsibilities include: notifying the IPM manager that an event where food and drink will be served has been scheduled, supervising event staff and contracted workers (e.g.: caterers, decorators and florists) and making appropriate housekeeping arrangements for cleanup.

E) **Museum Shop:** Staff, who are responsible for incoming shop goods and supplies, are also responsible for assuring that the materials are brought in free of pest risk. Conservators should be consulted if questionable materials are encountered. Museum shop storage areas should be kept free of dust, debris and clutter. Unneeded packaging materials should be promptly discarded.

F) **Restaurant:** Food service staff (and any other contracted workers) should be provided with copies of the IPM policy and procedures. As these groups may introduce greater pest risk into the facilities, it is essential that they understand and adhere to IPM Policy and Procedure.

G) **General Operations and Facilities:** The Facilities staff are responsible for pest management in non-art containing areas at the BMA. Pest sightings in non-art containing spaces should be reported to the Facilities Department. The Facilities Manager and the Landscape manager are responsible for maintaining a log pest sightings in non-art containing areas of the building.

The IPM manager will work with and advise the Facilities staff when improvements or structural modifications to the building and landscape are necessary to minimize pest risk within the art-containing areas of the museum.

H) **Off-site Warehouse:** The BMA maintains an off-site facility (the 28<sup>th</sup> Street annex) for the storage of architectural artifacts, archival materials, exhibition materials, gift shop merchandise, and miscellaneous maintenance supplies and equipment. Because objects from the warehouse are routinely transported into the museum, the IPM policies for the museum also apply to the off-site warehouse.

General policies:

- Eating, drinking, and smoking are prohibited in the warehouse.
- Storage of food or food waste is also prohibited.
- Grain-containing rodent poisons should be avoided, as they can become a food source for other types of pests.
- The facility should be cleaned (swept, vacuumed, etc...) on a regular basis.
- The facility should be monitored with sticky traps to identify the extent of pest activity.

Policies regarding the storage of architectural artifacts and archival materials:

- Museum objects should only be placed in designated areas. These areas should not be used to store any other materials.
- Objects (or boxes of objects) should be kept off of the floor on shelves and at least 1 foot away from walls. Placing objects against walls create environments that are favorable for pest harborage and limit the ability to adequately monitor for pest activity.

Policies regarding the storage of exhibition, maintenance and gift shop materials:

- All materials stored at the warehouse, especially exhibition cases, should be inspected for pests prior to bringing them into the museum.

## II. Parameters for Prevention

Parameters for prevention include monitoring to determine biological activity, maintenance of the building structure, treatment actions necessary to modify conditions that permit pest access and survival, and actions taken once an infestation is discovered.

A) **Monitoring:** The IPM Manager monitors pest activity within the art-containing areas of the building by interviewing staff responsible for maintaining specific areas and assessing these spaces using sticky traps. A baseline of information is gathered from the interview and from the placement of sticky traps throughout a space. Sticky traps are periodically examined and field data is recorded on a form developed for the BMA. The scheduling and frequency of future monitoring will be based upon initial findings, and adjusted as necessary to each situation. New base-line readings should take place following the renovation of a space as new materials, etc. can create variables that may support new insect populations.

A proper sticky trap program includes:

- numbering and dating of each individual trap
- placing of traps in critical areas, around perimeter walls, near doors and water sources, etc.
- recording resulting data on appropriate form: trap number, date placed, date inspected, and insects found
- retaining forms in a useable manner and basing future resources upon results of base-line findings
- replacing traps at appropriate intervals

In addition, environmental monitoring provides climate condition information that may shed light on reasons a pest community is surviving.

B) **Communicating Pest Problems:** All staff should be aware of the threat to the collection posed by pests. All staff are relied upon for communicating pest problems in art-containing spaces by directly informing the IPM Manager or completing a pest sighting form. These forms are compiled in a pest logbook maintained in the conservation lab. This form and logbook provide a record of the insect activities within art areas and adjacent spaces. Reported incidents are also recorded in the BMA pest database. This information indicates where the pests are and perhaps why they are occurring there.

C) **Maintenance:** The building structure is a physical barrier to insect life. All pests require food, water and shelter, and as the museum environment is capable of providing all three, it is necessary to reduce pest access into the museum from the outdoors. To accomplish this, all gaps in the physical structure should be closed in an appropriate manner. In addition, management of the landscape surrounding the exterior of the

building will help reduce adjacent insect populations.

Inside the building, pest movement from one area to another can be reduced by installing door sweeps and caulking cracks and crevasses. These measures also serve to deny pests harborage and minimize dust accumulation. Many pests are attracted by moisture. Therefore, proper maintenance of the plumbing and drainage systems in the building is very important. Leaks or large spills of water should be reported to Facilities and to Conservation.

D) **Good Housekeeping:** Pests require only small amounts of water and food, therefore, both must be restricted as much as reasonably possible. Dust and clutter should be reduced as it provides harborage and obstructs monitoring. Unneeded packaging materials should be promptly discarded.

E) **Food Usage:** food use in permitted spaces for Special Events is discussed above. All staff must understand the importance of responsible food use within the museum.

### III. Parameters for handling active pest problems in or around works of art

When a possible pest problem is found the following steps are taken:

A) **Isolating the object:** When an active pest problem is possible, all priority is given to isolating the object to prevent possible infestation of additional material. **Small objects** should be placed in appropriately sized polyethylene bags, always maintaining a complete seal. The object should be placed on a clean, white support of stiff board to enable sighting of frass or other evidence of pest activity. A dated “sticky-trap” should be placed in a location inside the bag that does not pose a threat to the art. For example, an object containing fur should be placed an appropriate distance from the sticky trap to prevent contact with the fur. **Larger objects** may require custom-made polyethylene enclosures to adequately isolate possible infestation. As above, a clean, white support should be placed under the object, and a dated sticky-trap placed inside at a safe location.

B) **Identification of the problem:** Once a problem is found the pest must be identified to determine the appropriate path of activity.

C) **Extent of infestation:** Based upon the habits of the known pest, the region immediately surrounding the infested object should be carefully inspected to determine if additional infestation is present. Findings should be documented in the “Pest Book”, as appropriate. If no evidence of spread of infestation is found, the area should be monitored with sticky traps and checked appropriately. If evidence of additional infestation is found, collection objects should be isolated as above, areas thoroughly cleaned, and any non-

collection material with infestation removed promptly and appropriately.

**D) Determine the source of the infestation:** If the source is from infested material brought in from the outside, it may be necessary to reevaluate and modify policies and procedures that have permitted the occurrence. If the problem is one of facilities structure, appropriate modifications or repairs should be made.

**E) Treating the Problem of Infested Collection Objects:** (the following is based upon the National Park Service *Museum Handbook, Part I*).

1. Identify the pest and the stage in its development that is found on the materials.

2. Identify the media of the infested material (e.g., what is the material composition of the object/specimen?).

3. Based on an understanding of the biology of the pest, its life stage when found, and the material of the object, answer the following questions:

- can the infested material be disinfested through removing the pest?
- are eggs present?
- what is the least damaging approach to treatment?

4. Treatment decisions must incorporate the identification of the pest, the infested materials, and the condition of the object. Treatment options range from simple cleaning to fumigation/anoxia. Fumigation of objects, when safe for materials comprising that object, would be undertaken by a certified independent contractor who has been approved by the consulting entomologists. The more recently developed option of “anoxia” provides a treatment path that can be more safely applied to diverse collection materials.

5. All treatment must be documented. After treatment, objects should be cleaned, if appropriate, and all evidence of infestation should be documented and removed. Records of the infestation and treatment should be placed in the Object File and the Pest Log.

6. Continue to evaluate as necessary to determine if treatment was effective.

**F) Review established museum IPM Program** to determine how it could be modified to prevent the problem in the future.

**IV. Documentation:** A variety of forms and organizational systems are maintained by the IPM manager to document the IPM Program at the BMA. The documentation includes:

- **Pest Sighting Form** - filled out when a pest is seen or found in an art containing space or an area that poses threat to an art containing space. This is then filed chronologically in the Pest Notebook.
- **Pest Management Notebook** - place for storing Pest Sighting Forms and all other IPM information, related correspondence, etc., placed in a chronological manner.
- **Sticky Trap Location List** - created whenever a new space is being monitored for a base-line reading of pest population. Added to whenever inspections of the traps in that space are examined. Forms being actively used will remain on the clip-board; once an area no longer requires monitoring, the forms will be filed in the appropriate location in the Pest Notebook.
- **Data Base** - computer log of identified insects, taken from information on Pest Forms.
- **Log Book** - chronological record of actions taken and any resulting effects when an active pest problems arises.