The PSAP: An Open-Source Application and Resource for Collection Preservation Assessment

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**What Is the PSAP?**

No matter how small, getting a start on preservation is far better than allowing collection materials to waste away due to inaction. The Preservation Self-Assessment Program (see https://psap.library.illinois.edu) is an online tool designed to aid collection managers and staff at smaller cultural heritage institutions with determining and acting on the preservation needs of their collection materials. A free, open-source web application lies at the heart of the program. It guides users through the steps of preservation assessment of collection materials, including books and unbound papers as well as audiovisual, photographic, and image types. The PSAP’s web application is accompanied by a number of supplemental guides, which have been designed to work individually and in tandem in order to support preservation assessment. Thus, the PSAP is at once an online assessment tool, an instructive guide for collections care, a supplemental institutional resource, a creator of records and metadata for collection materials, and a storage service for assessment results.

The PSAP is intended for both professional and nonprofessional users. As a result, it neither depends upon prior preservation knowledge or experience by the user nor relies on advanced technical training. It also does not require any special computer hardware, software, or technical specifications. All the PSAP needs to run is a device with a web browser and an Internet connection. Since nothing has to be installed or updated prior to use, it is able to run on older machines and operating systems. It has a customizable display that scales with different platforms and devices, including mobile phones and tablets. And finally, the PSAP publishes and stores the generated assessment reports and resource metadata, so that multiple users at the same institution can share data and keep it centrally located.

**Assessment and Small Institutions**

One of the most significant issues that institutions and repositories have recently faced is what to do with large—and growing—amounts of unprocessed and under-processed collection materials. During the mid-2000s, three major influential developments started to take form at American institutions in response to these concerns.

In 2003, the Association for Research Libraries (ARL) began its Hidden Collections Initiative, which seeks to expose and process research collections that are significant yet unused by scholars due to their unprocessed state. The 2004 Heritage Health Index revealed that over 33 percent of bound volume, 42 percent of photographs, 43 percent of moving image, and 44 percent of recorded sound collections were unprocessed—putting them at significant future risk. And in 2005, Mark A. Greene and Dennis Meissner introduced the More Product, Less Processing (MPLP) model of archival processing as a practical means for archivists to gain headway on and reduce the immense backlog of unprocessed and under-processed collections at American institutions and repositories.

In response to the increased professional focus on the condition of collection materials, there has been a greater emphasis over the last decade on active preservation care and planning. This is particularly the case at many large museums, archives, and libraries, which have made good progress towards identifying, processing, and preserving collections materials. Yet while larger institutions have had the benefit of available funds, staff, and ongoing training to keep up with the most pressing preservation needs of their collection materials, smaller cultural heritage institutions have lacked these resources. As a result, they have continually run up against a number of challenges when evaluating collections and providing preservation care. This, however, is where the PSAP comes in. It has been constructed specifically to help staff at small institutions make preservation assessments of collection materials at the same time as they learn to better understand and anticipate their collections’ preservation needs. In this way, the PSAP removes some of these barriers by offering a direct way for smaller institutions to be able to assess the preservation needs of their collections in the present and future.

The PSAP’s use as a valuable tool for collections care goes further than offering item-focused preservation assessment and training. The PSAP’s identification and analysis of the current condition of items—as individual items as well as part of a larger, cohesive collection—can be used to improve planning for institutional efforts towards meeting standards and the demands of accreditation, accountability, grant applications, and fund-raising. The PSAP’s
assessing reports give a good, basic, quantifiable measure of the current state of an institution's collections and set up a baseline for monitoring the condition of collection materials over time. While not a replacement for a trained conservator’s consultation, these metrics can later be useful when negotiating for more resources for collection and preservation care, as well as when reviewing and establishing best practices for the use and display of individual items.

The PSAP has also been designed to provide staff and volunteers, such as those at small institutions that cannot currently afford specialists to manage collections care, with an opportunity for basic preservation training and continuing professional development. The PSAP’s corpus of supplemental guides is structured in a manner that brings attention to several major areas of preservation knowledge and that provides users with a fuller understanding and appreciation of their importance. These topics are grouped into three thematic subdivisions: policy and procedure, material and format, and audiovisual media. Within each of these sections, individual essays discuss fundamental preservation concepts and approaches towards the proper care and preservation of collection materials. Supporting a mission to provide free and open access to educational resources, the PSAP's guides provide information about—and link directly to—many preservation services, work tools, publications, federal programs, grants, vendors, technical standards, manufacturer guidelines, and other resources that can be consulted before undertaking stabilization-focused preservation care.

The PSAP and Assessment Reports

Keeping collection materials in good condition is a constant battle, which is why it is a good practice to establish and maintain a regular institutional procedure of collection assessment. Depending on the situation and desired goal, there are several different ways to evaluate the state of collection materials using the PSAP. When assessing materials for preservation, one generally performs an action survey, which is geared towards establishing what precise actions need to be taken in order to preserve items in a collection. Often performed in conjunction with action surveys, condition surveys are used to identify factors affecting the physical condition of items in a collection. Therefore, they consider aspects like items with existing damage as well as the manners in which collection items are handled and used. Preservation assessments, on the other hand, consider collection health in a more holistic sense by incorporating considerations like repository storage conditions and institutional policies into the assessment process. Assessments combine the focus of action and condition surveys into a comprehensive approach that both rates the health of collection items and provides specific recommendations towards improving their condition.

The PSAP makes it easy for users to determine important identifying information about assessed items by employing multiple-choice answers and responsive follow-up questions. Users can identify materials that are at risk from inherent vices and other stability issues (e.g., newsprint) or from commonly made errors in handling and storage (e.g., diazo prints). Along the way, they also receive recommendations for immediate preservation action on the item level, such as ameliorating damage by rehousing items that have moldy containers, and on the larger conceptual level, such as relocating collection items made with materials that damage others around them (e.g., via off-gassing).

The PSAP generates the result of a preservation assessment in the form of an assessment report, which gives numerical scores to each assessed subcomponent. An assessment report covers three main thematic areas: the general condition of all the collections, what is needed to improve their situation, and how to preserve collection materials long-term. The scores on each assessment report reflect preservation needs on different levels and are intended to help staff and volunteers at small institutions identify threats to their collections. Resource scores, for example, reflect data entered about items' current physical states, the inherent vices and preservation risks of their formats, their physical locations, institutional policies, and storage environments. Users can compare items' resource scores in order to judge the preservation risks and needs of one assessed item against those of others in the same collection.

Along with considering factors about individual items, the PSAP application evaluates the policies and practices that can affect collection materials on the large scale. The PSAP assesses and scores materials' storage environments at every location of the same institution, including across multiple repositories. Each individual location is assessed so that their scores can collectively be used to determine the best storage and display locations for each assessed collection item. When used in conjunction with one another, the PSAP's assessment scores can be used in identifying preservation needs, suggesting actions to meet those needs, and prioritizing among the recommended actions. By generating this type of information, the PSAP's assessment reports provide basic metrics for individuals and institutions that have no other reliable method of generating useable figures about the condition and long-term preservation of collection materials.

Formats and Materials Covered by the PSAP

One particularly valuable aspect of the PSAP is that it is designed to assess more than one category of collection material or format. While there are other open-access tools and resources available for preservation assessment, most of them restrict their focus to a single format or material type. In contrast, the PSAP covers almost all of the most common types of collection materials in American libraries, archives, and museums. These format areas are:

- **Audiovisual media**: audiotapes, films, optical media, phonograph records, videotapes, wire recordings.
- **Paper and books**: architectural reproductions, bound books, office copies/prints, unbound paper.
- **Photographic and image materials**: cased/direct photographs, digital prints, microforms, negatives, photographic prints, photomechanical prints, slides/transparencies.

The PSAP covers specific varieties and physical components of collection materials within each category of media format as well. These format types and components include:

- **Ink types**: ballpoint pen, carbon black, colored pencil, copying pencil, dye-based, felt-tip pen/marker, graphite, iron gall, pigment-based, typewriter ribbon, wax-based pencil/crayon.
- **Monochrome prints**: albumen, carbon, cyanotype, gelatin POP (printing-out paper), glossy collodion, matte collodion, platinum/palladium, salt, silver gelatin DOP (developing-out paper).
- **Paper types**: acid-free, coated, newsprint, rag paper, proprietary, tracing/transparent.
- **Videotapes**: 1/2" open reel, 1" open reel, 2" open reel, Betacam/Betacam SP, Betacam SX, Betamax, D-1, D-2, D-3, Digital.
Betacam, DVCam, DVCPro, HDCam/HDCam SR, HDV, MiniDV, U-matic/U-matic SP, VHS, Video8/Hi8.

The PSAP application assesses collection items based on the qualities and needs specific to each format and its material components. In order to assess the overall condition of collection materials, it evaluates important information about the inherent vices of materials and the risk factors of materials’ formats for preservation in conjunction with basic identifying and descriptive information about these materials as individual collection items. The PSAP takes into account that materials belonging to the same category of media format should not be assumed to share either the same general or preservation-specific needs with other formats within the same collection. Thus, whether pulling information from the Format Identification guide (FIDG) or from the PSAP’s photographic and image material “cheat-sheet” (guides are described later in this technical insert), a user working to assess a photographic collection would learn that while a silver gelatin print can—and should—be stored at a low temperature, a glass autochrome slide should not be.

Using the PSAP

When ready to assess materials using the PSAP’s application, the user will need to sign up for an account. All that is needed for registration is a working email address. Once the user has registered and been approved, he or she will be ready to enter the site and use the application.

The PSAP offers several avenues for users to look for assistance, each of which is tailored to make the application and its guides as accessible and easy to use as possible for both new and repeat users. These resources can be accessed through the first-time user panel or through the getting started guide, which is a centralized list of the PSAP’s help aids that is intended to direct users towards the best type of help for their needs. These materials include, for example, a suite of tutorial videos offering practical instructions on how to use the application and supplemental aids. Help content is also provided at strategic places in the PSAP application through text bubbles, which provide basic assistance and are linked to relevant content in an advanced help guide, and through dashboard icons that lead directly to the Format Identification guide, the advanced help guide, and a user manual. Furthermore, the sections of the FIDG and the other supplemental resources are interdependent and cross-referenced; they contain numerous links that redirect users to pertinent glossary definitions and to relevant sections of the FIDG.

The PSAP application is oriented to start users on the process of making preservation assessments. As a result, users will be first asked to assess the institution, repository, and location of collection materials. Once these details are determined, users are directed to add and start assessing the materials themselves. At this point, users can choose to evaluate a collection item in two ways, either through individualized item-level assessment or through generalized collection sampling. While not often possible or practical for large collections, item-level assessments can be useful when one is performing either preservation action or condition surveys.

Although individual items are evaluated in the process of performing both item-level and sample-based assessments, the type of information provided by each is fundamentally different. Item assessments are geared towards considering individual items outside of the context of their collections, as unique material objects. In contrast, the practice of collection sampling provides information about the care of a specific format or type of object by employing item-level assessments to represent a larger body of materials of the same format or type within the same collection. Thus, while the user assesses individual items using both methods, sampling involves using the assessment of individual items that have been selected on the basis of a numerically generated or format-representative formula.

In order to make it more compatible across platforms as well as management systems, the PSAP allows one to edit, import, and export records in a variety of ways. Item-level assessment reports can be exported as CSV (comma-separated value) files, a format which can be easily opened as a basic Excel spreadsheet or as PDF files. Assessment reports at the collection level can be exported as CSV files or as XML (Extensible Markup Language)-enabled Dublin Core and Encoded Archival Description metadata. At the present moment, the PSAP can also handle importing PastPerfect and ArchiveSpace records.

The Format Identification (FIDG) and Supplemental Guides

The PSAP website offers a series of guides designed to provide assistance with different aspects of the PSAP application and with basic preservation care. These aids are divided into the Format Identification guide and an additional corpus of supplemental documents, which are organized into four subject areas: Institutional policies and best practices, material- and format-specific information, audiovisual media-specific information, and quick reference cheat-sheets. Along with the PSAP’s bibliography and glossary, these supplemental guides provide some measure of ongoing preservation training and development for staff not only to meet immediate needs or pressing concerns, but also to prepare for future events, to advocate for improved standards and practices, and to anticipate institutional developments.

The guides go beyond the assistance necessary for performing preservation surveys by presenting a comprehensive overview of themes and topics useful to performing preservation assessments. Towards this end, they cover issues that both might be and will be encountered during the assessment process. The subjects range from the small-scale, such as when to hire vendors and how to handle materials during assessment, all the way up to how to craft institutional policies establishing emergency or disaster recovery plans.

The PSAP’s FIDG and other supplemental guides are meant to be used as practical reference aids. They may be accessed online at https://psap.library.illinois.edu/format-id-guide. These guides provide a number of points of access for users to process and engage with the content provided by making liberal use of high-resolution images and videos to accompany written descriptions and explanations. Each entry in the FIDG provides answers for users seeking information about material and format identification as well as about components of collection items and format-based preservation care. Each entry also gives format-specific advice like recommended relative humidity (RH) and temperature settings as well as related International Organization for Standardization (ISO) standards. The FIDG's format summary lists, which can be used as quick identification aids while processing, each cover a major type of collection common to American libraries, archives, and museums—architectural reproductions, office prints, audiovisual media, and photographs.
The PSAP’s supplemental materials also introduce users to common preservation knowledge, such as the types of inks, adhesives, and support materials most commonly found in American collection materials. In this way, the guides function as more than sources for immediate, onetime reference help; they serve a long-term pedagogical purpose as well. The supplemental guides are intended to provide individuals at small institutions with an introduction to basic concepts and approaches towards preservation care along with a basic training, over time, in preservation best practices. Towards this purpose, the FIDG includes information about the origin and technological innovation behind each format and media type as well as its range in appearance and size, manufacturers, material components, risk for obsolescence, user communities, and any requisite playback equipment. In addition, both the FIDG and format cheat-sheets are arranged chronologically so that users can see the evolution of the media and the technologies that made them possible. Over repeated use, users will develop a deeper understanding and appreciation for the relationship between media sub-types and for collection materials as a whole.

The PSAP and Metadata

Metadata is machine-readable information about other information, where the information transmitted describes any aspect about any type of resource, object, abstract concept, or data. By generating metadata records for one’s holdings, it is easier for information and resources to be shared within and between institutions. For small organizations, this can be a valuable way both to advertise one’s holdings to a wider body of potential users and to work collaboratively with other cultural heritage institutions and agencies.

Coming up with ways to produce and store metadata is very important to the long-term access and preservation of analog objects. Much like traditional description, metadata description stores information about items, such as their provenance, copyright and licensing rights, use and access restrictions, connected records, and related notes. Metadata description simply adds a digital dimension to the process of description. This digital component enables metadata description to provide more accurate and universally consistent records for born-digital as well as analog and hybrid collection materials. Using a metadata schema such as PREMIS (PREservation Metadata: Implementation Strategies), for example, a museum could combine and store together as a single record the technological, descriptive, and administrative information for an interactive art installation, including its physical components; accompanying files; provenance and institutional history; the hardware, software, and technical specifications necessary to run it; the URLs for any technical standards relied on during its creation; how its components should be stored and re-exhibited in the future according to the artist; and how its components should be stored and re-exhibited according to preservation experts.

Many new grants (e.g., those from the National Science Foundation and the National Endowment for the Humanities) now contain a requirement that data produced through federal funding must be made available to the public for free and must be stored on long-term, dedicated servers. As a result, institutions that previously did not have the time, training, or desire to produce metadata records for their holdings are now being forced to do so. For this reason, the PSAP has an additional feature that generates Dublin Core and Encoded Archival Description metadata with the information it gathers through the assessment process. These metadata standards are most often adapted for online use and maintenance via XML. By standardizing metadata code to satisfy the conditions set by the XML framework, records’ data becomes easier to verify, to modify, and to share on the global level. Being presented as XML also makes records easier to cross-walk into other schemas over time.

Conclusion

The Preservation Self-Assessment Program (PSAP) is a resource meant for anyone interested in assessing collection material as well as anyone wishing to learn more about a broad range of topics within preservation care. It has been designed for particular use by staff at smaller libraries, archives, and museums that lack fundamental resources necessary for determining the preservation needs of their collection materials. In order to assist these types of institutions, the PSAP offers a free, open-source web application that enables non-specialist staff to generate item- or collection-level preservation assessment reports, which score the condition of collection items based on factors related to an item’s current state and physical format as well as on spatial and institutional factors that impact its long-term health. The PSAP application’s guides simultaneously provide users with reference help, useful preservation resources and information, and continuing education in stabilization-focused preservation care. This project was made possible by a National Leadership Grant from the Institute of Museum and Library Services and the generous support of the University of Illinois Library. To learn more about the PSAP, please go to https://psap.library.illinois.edu.

Endnotes


4. The PSAP covers over half of the top types of collection items cared for by American institutions. For a list of types of collection items, see figure 4.1, chapter 4, “Condition of Collections,” A Public at Risk (2004).

About the Author

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