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Conducting a Historical Map Collection Condition Assessment Survey at the Rochester Public Library

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ABSTRACT

Historical maps retain tremendous research value in the digital era. While many libraries have digitized their maps to expand research access, challenges remain in preserving physical maps. This project report describes a collection-condition assessment survey at a public library using free online tools and volunteer hours to identify preservation issues and develop strategies to improve collection care. Collection-condition surveys can serve as a roadmap for further preservation, conservation, and digitization projects.

Keywords: Preservation; Condition Surveys; Assessment; Geospatial Materials; Local History; Maps

INTRODUCTION

Historical maps retain tremendous research value in the digital era. These maps contain details and descriptions of past geographies that may not be evident on a smartphone app or a tour of a given location (Sun et al., 2021). Many institutions recognize the value of their historical maps and have undertaken digitization projects to improve accessibility to these collections (City of Rochester, 2025; Knutzen, 2013; Kowal & Martyn, 2009). However, challenges remain in preserving physical map collections, particularly for institutions with a mandate to preserve materials in their original formats.

This report describes a collection-condition assessment survey conducted on the map collection at the Rochester Public Library's Local History and Genealogy Division as part of a graduate student fieldwork project in 2024. By implementing research on best practices and using the Preservation Self-Assessment Program (PSAP) to identify collection-wide preservation issues, the author aims to inspire other libraries to utilize free online resources and volunteer hours to conduct collection-level surveys to assess the condition of their historical map collections. Such assessments can serve as roadmaps to develop preservation policies, improve collection care practices, identify priorities for conservation, and prepare for future digitization projects.

ABOUT RPL & LHGD

Rochester Public Library (RPL) is an urban library system serving a mid-sized city in western New York. It consists of 10 neighborhood branch libraries and the downtown Central Library of Rochester and Monroe County, which serves as the administrative center for the Rochester Public Library and the Monroe County Library System. The Central Library comprises two buildings. This report focuses on the historic Rundel Memorial Library, which opened in 1936.

The Local History and Genealogy Division (LHGD) serves as a research hub, archival repository, and rare book and special collections library focusing on the history of the City of Rochester, Monroe County, the Genesee Valley Region, and western New York. LHGD has a mandate to preserve and make accessible inclusive resources on these topics. Collection strengths include early Rochester history, social and cultural history, activism and reform movements, LGBTQ+ history, and African American history. Materials are noncirculating and available through the reading room on the second floor of the Rundel Memorial Building. LHGD hired its first full-time, professionally trained Special Collections Librarian in 2008.

ABOUT THE LHGD MAP COLLECTION

The LHGD map collection consists of approximately 3,000 historical maps in a variety of formats, including original manuscripts and prints on paper, linen, and polymer film (transparencies), as well as cyanotype prints (blueprints), photostats (positive and negative), and high-density polyethylene (Tyvek) reproductions. The collection focuses on the Greater Rochester Metropolitan Area, Monroe County, and western New York. Maps include hand-drawn 18th-century survey maps, 20th-century political maps (census tracts, voting districts, legislative districts, etc.), land-use maps (surveys, development proposals), transportation maps (railroads, automobile routes, Erie Canal routes), nature trails, walkways, and other topics. Maps are housed in eight horizontal map cases located on the second floor of the Rundel Memorial Building.

The provenance of the map collection is largely unknown due to the loss of RPL's accession books during the mid- to late 20th century. Many maps originating from municipal and county sources were originally acquired by RPL's Business Division and were transferred to LHGD upon the completion of the required depository period or when deemed obsolete after the publication of updated maps.

Prior to this assessment, most of the collection had been inventoried in an Excel spreadsheet by LHGD staff and interns to establish basic intellectual control over the collection. The inventory was completed during the fieldwork project.

BACKGROUND

A *collection-condition assessment survey* is a tool used to evaluate the overall condition of a specific collection within a library, archive, or cultural heritage institution. Assessments consider policies; building and facility environments; storage and exhibition areas; storage and handling procedures; and other factors to identify challenges and potential threats to the long-term preservation of collections (Ogden, 1994). Assessment surveys help ensure that historical collections and materials remain accessible for current and future generations.

In 2022, RPL contracted the Documentary Heritage and Preservation Services for New York (DHPSNY) to complete an archival needs assessment to evaluate the library's archival collections. This assessment evaluated LHGD's administrative policies, procedures, and planning; collection management; and collection care and storage, and made recommendations to improve department-level preservation priorities (Philipson, 2022). Building upon this initial assessment, LHGD staff determined that a collection-level assessment was needed to identify the specific needs and challenges of preserving the historical map collection. The author conducted fieldwork on-site to perform the map collection assessment and survey. The survey was completed between January 30 and February 29, 2024.

METHODOLOGY

The author began by reviewing the DHPSNY assessment to avoid unnecessary duplication of labor. He performed a walkthrough evaluation of the reading room and collection storage areas to note the building design, potential environmental hazards, and the conditions of the individual map cases. He reviewed LHGD's policies for collection development, research access, handling and retrieval of collection items, housekeeping and environmental monitoring, exhibition and loan, and collection care. He also interviewed LHGD staff and volunteers to evaluate the implementation of these policies and to identify any known issues with preserving the map collection.

While gathering this information, the author reviewed the available literature in LIS databases (LISA and LISS) to determine best practices for the care, storage, and preservation of maps and blueprints. Along with this macro-level analysis, the author compared methodologies for designing and implementing a collection-condition survey of maps and other paper-based materials. A select bibliography of resources consulted is included with this report.

Due to the size and relative neglect of the map collection, it was determined that a collection-level condition survey was needed to determine the overall state of the collection and to identify high-priority items in need of conservation, rehousing, or additional preservation actions. The survey took approximately 30 volunteer hours over three weeks to complete.

The methodology used for this survey was adapted from the Purdue University Libraries' map collection physical condition assessment survey (Allen, 1996), which was selected due to the similarity between the two collections. The author also adapted procedures from the University of Illinois' *Preservation Self-Assessment Program User Manual* (Teper et al., 2016). Based on these sources, the author determined that randomized representative sampling would provide a reasonably accurate snapshot of the conditions and preservation needs for the entire map collection. Random sampling also allowed the project to be completed within the strict time limit of graduate-level fieldwork.

The map inventory enabled a simple random sample to be easily determined by using a free online sample-size calculator (calculator.net). Duplicate copies were treated as unique objects for the purpose of sampling. As the inventory consisted of 2,823 unique objects, the sample size needed to obtain results with a confidence level of 95% and a tolerance of ±5% was calculated to be approximately 337 maps. Each unique object was assigned a number from 1 to 2,823. An online random number generator (random.org) was used to generate a list of 337 random numbers, which were used to highlight the corresponding maps in the inventory.

These maps were checked for preservation issues identified as *characteristics* in a standards document used as a reference throughout the survey. Maps were pulled from their folders long enough to record their characteristics on a blank survey form, at which point they were returned to their proper sequence to remain accessible to library users. A total of 11 physical characteristics were examined for each map. Maps were tested for *acidity* by making a small mark in an inconspicuous location using a pH testing pen. The remaining characteristics were determined through a visual examination: evidence of *folding*, *tears*, *tape/adhesives*, *worn edges*, and *oversized items* (maps too large for their enclosing folder) were assessed independent of the maps' intellectual content, while *staining*, *discoloration*, *markings* (ink or pencil), and *wrinkling* were assessed based on the degree of their impact on the intellectual content of the maps. An additional category, *protection*, was created early in the survey as a catch-all for maps that had previously undergone treatments such as *encapsulation*, *mounting*/*backing*, or *other*.[1] Maps with these treatments were noted for reference but were not considered for additional preservation actions, as the methods appeared suitable for the material.

One proposed characteristic (*brittleness*) was removed from consideration after it was determined that the double-fold test would cause unnecessary damage to the collection's rare and often irreplaceable materials.

Only results for the sampled maps were noted on the survey form, although details for the surrounding maps were sometimes included in marginalia if they presented any issues that would impact the preservation of the surrounding materials. Likewise, items needing conservation treatments were noted on the survey form and recorded in the collection inventory to allow for easy identification in future projects. Notes on the storage conditions for each folder, drawer, and map case were included on the back of the survey form.

ANALYSIS

The collection-condition survey provided many useful insights into the overall condition of the map collection. The random sampling method resulted in an appropriate cross-section of the collection, with every material (e.g., paper, photostat, blueprint) and topic (e.g., political, physical, topographic) represented in the survey results. Additionally, the margin notes on folders, drawers, and surrounding materials gave an accurate snapshot of the collection's general preservation needs.

The survey found that approximately 55% (55.79% of objects tested) were printed on acidic paper (see Figure 1), which was consistent with the production methods predominantly used during the publication dates of the maps in the collection. As RPL lacks the facilities to undertake a mass-deacidification project, it was determined that the current policy of storing maps in buffered acid-free folders was acceptable for the long-term storage and preservation of these materials.

A larger implication of the acidity test concerned the blueprints and cyanotypes intermingled with the paper maps. Kissel and Vigneau (2009) identified that blueprints are sensitive to alkaline, while both blueprints and photostats are best stored in pH neutral *un*buffered folders. Given the mix of both acidic and non-acidic materials in the collection, the author

[1] Although a very small number of maps in the collection had been framed (F), none of these maps appeared in the sampling.

determined that the most cost-efficient solution would be to rehouse blueprints and photostats in separate folders. As LHGD did not have any unbuffered folders in their inventory, the author developed a makeshift solution of lining each blueprint folder with unbuffered mildly acidic brown paper to create a physical barrier between the buffering agent and the blueprints, reasoning that if "contact with an alkaline paper stabilizes acidic paper by neutralizing the acidic degradation products" (Library of Congress, 2014), then an acidic barrier should neutralize the alkaline buffering agent. Additional research is needed to test the long-term viability of this solution.

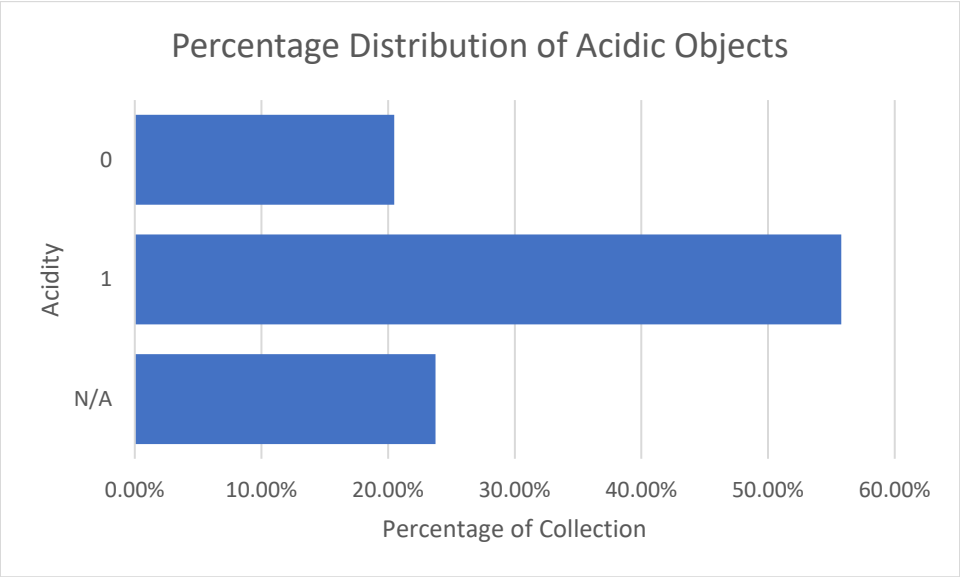

Figure 1. Results of Acidity Testing for Sampled Maps in the LHGD Collection

Folding was less of a concern than initially expected (see Figure 2), with the survey revealing that 94.96% of the collection had no folds, and the remaining maps had either one fold (3.56%) or two or more folds (1.48%). The author recommended storing maps unfolded whenever possible to reduce stress on fold lines; however, it was understood that maps would be evaluated on an individual basis. If appropriately sized folders could not be obtained, or if an unfolded map was too large for the map case, maps were left with the minimum number of folds necessary to fit their storage location.

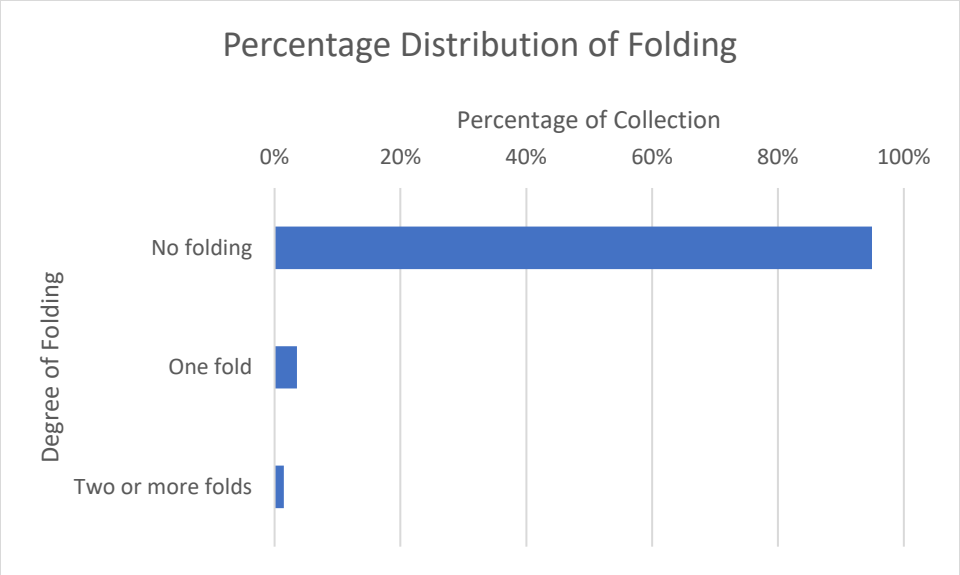

Figure 2. Distribution of Folding among Sampled Maps

Maps with small tears less than one inch (18.10%) were identified for in-house conservation using archival mending tape (Filmoplast-P90 or Filmoplast-P). Maps with more extensive tears (15.73%) or tears that had been previously mended with nonarchival adhesive tapes (13.05%) were identified for potential consideration for professional conservation treatment (see Figures 3 and 4). The author created a conservation-priority list and performed in-house treatments during a subsequent phase of his fieldwork.

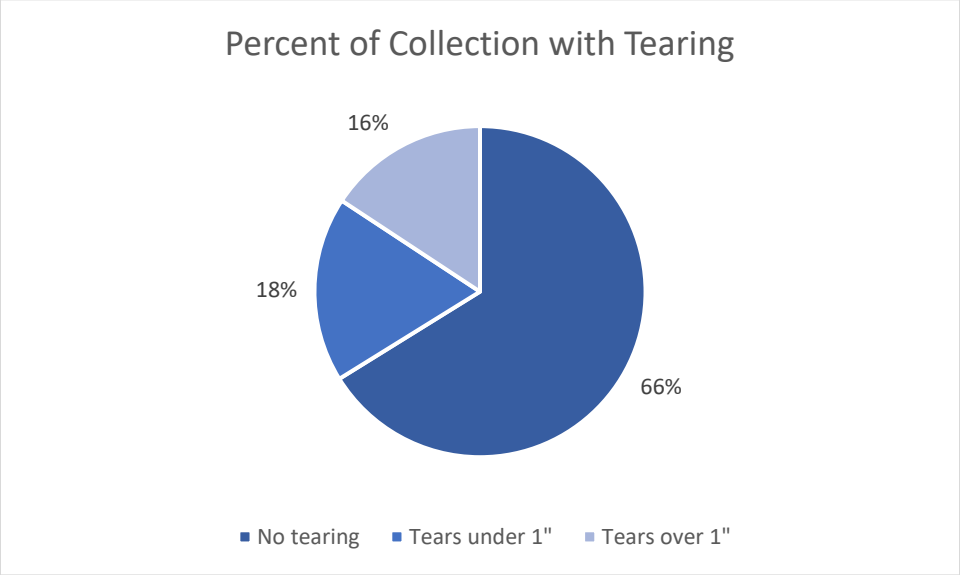

Figure 3. Extent of Tearing Observed in Sampled Maps

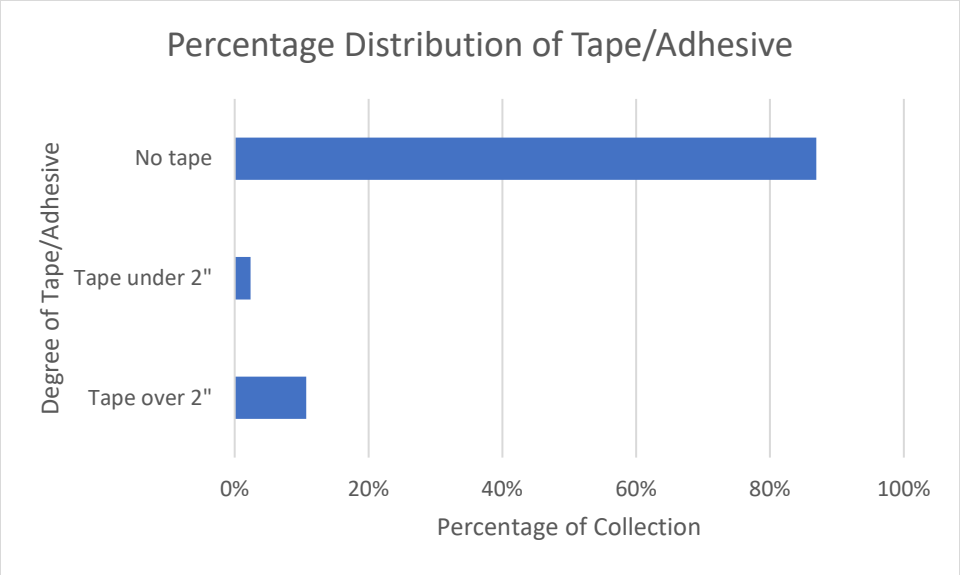

Figure 4. Observations of Tape/adhesive Damage in Sampled Maps

The author visually identified during the survey process that many of the maps with worn edges were too large for their folders, indicating that rehousing these maps would be the best solution to reduce wear and tear during handling (see Figures 5 and 6).

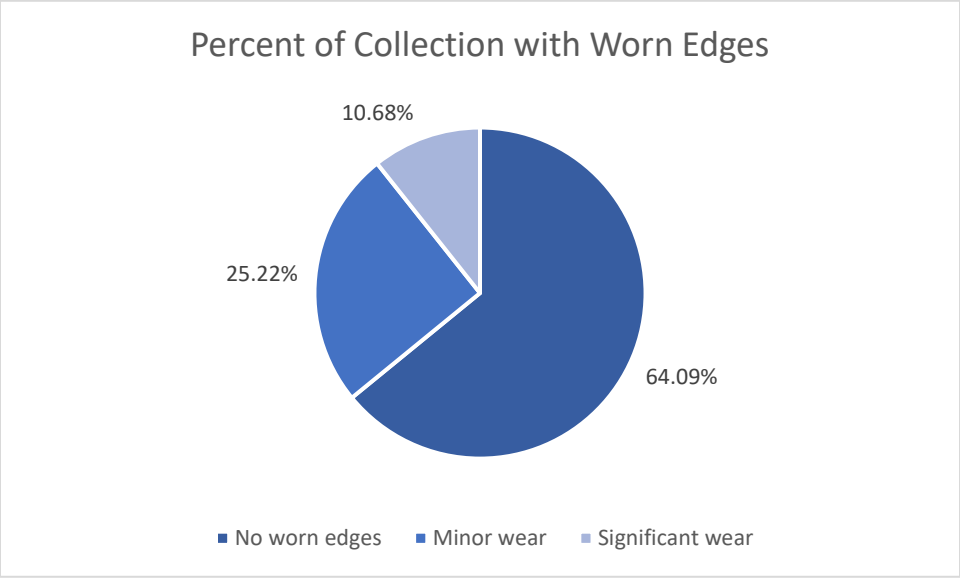

Figure 5. Extent of Edge Wear among Sampled Maps

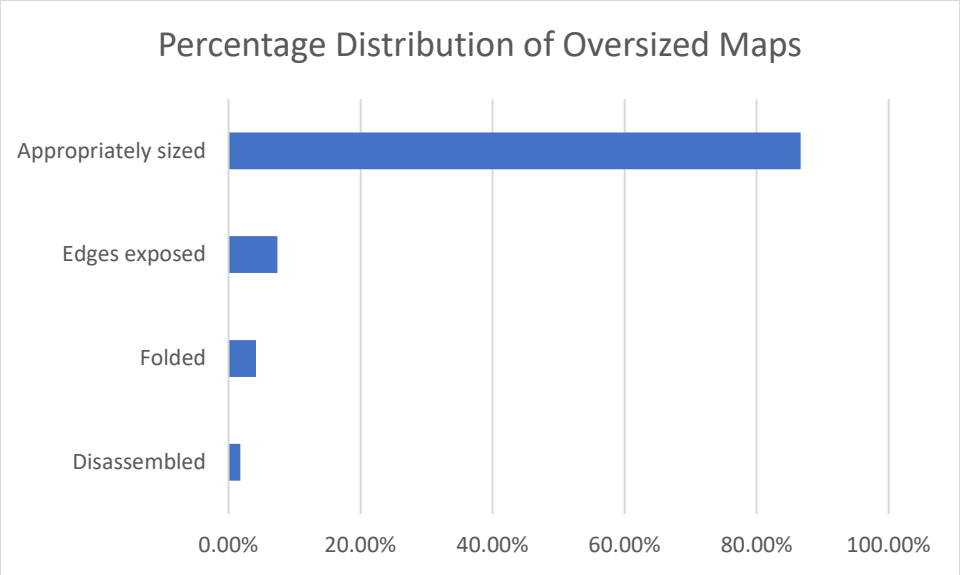

Figure 6. Examples of Oversized Maps Requiring Rehousing

Although a significant portion of the collection had some discoloration (see Figure 7), the majority of these (39.17%) did not interfere with readability. Likewise, most maps had either no visible stains (67.06%) or stains that did not impact readability (28.78%) (see Figure 8). Only a single map surveyed (0.3%) had markings that covered the map's intellectual content, although some additional maps (12.54%) had markings along the edges or in locations that did not interfere with readability (see Figure 9). Wrinkles (see Figure 10) either did not interfere with filing or readability (17.51%) or represented a minuscule portion of the collection (0.89%). No recommendations were made regarding these issues.

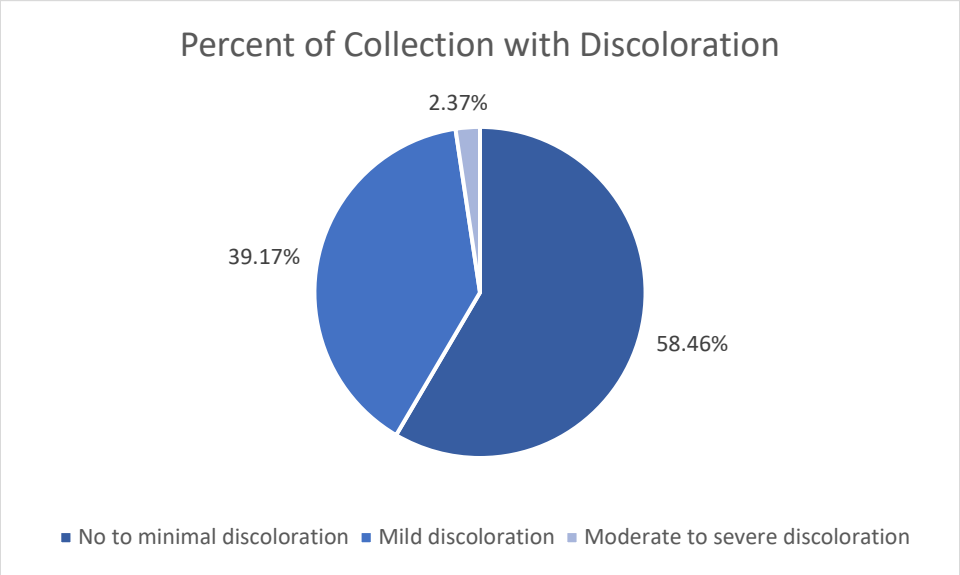

Figure 7. Extent of Discoloration among Sampled Maps

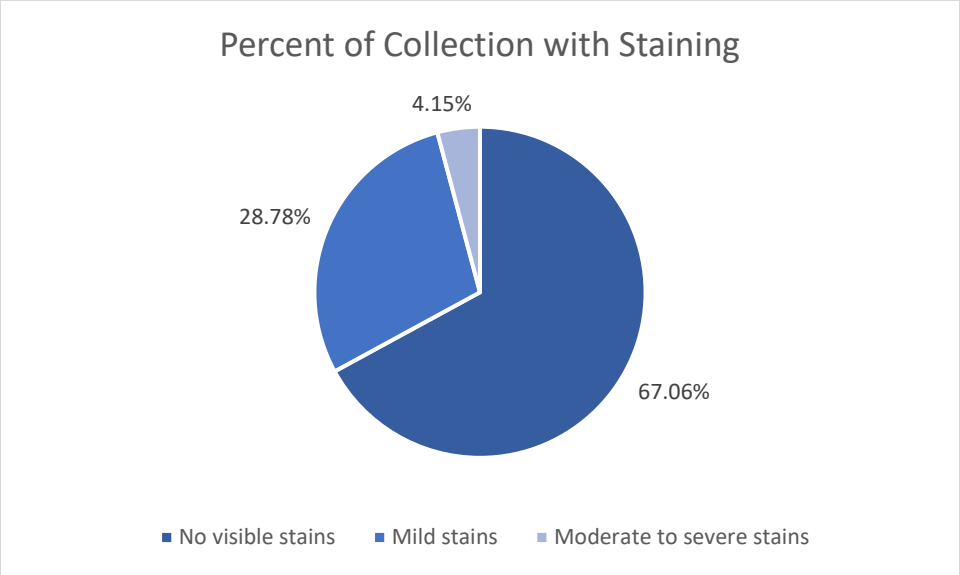

Figure 8. Occurrence of Stains in the LHGD Map Collection

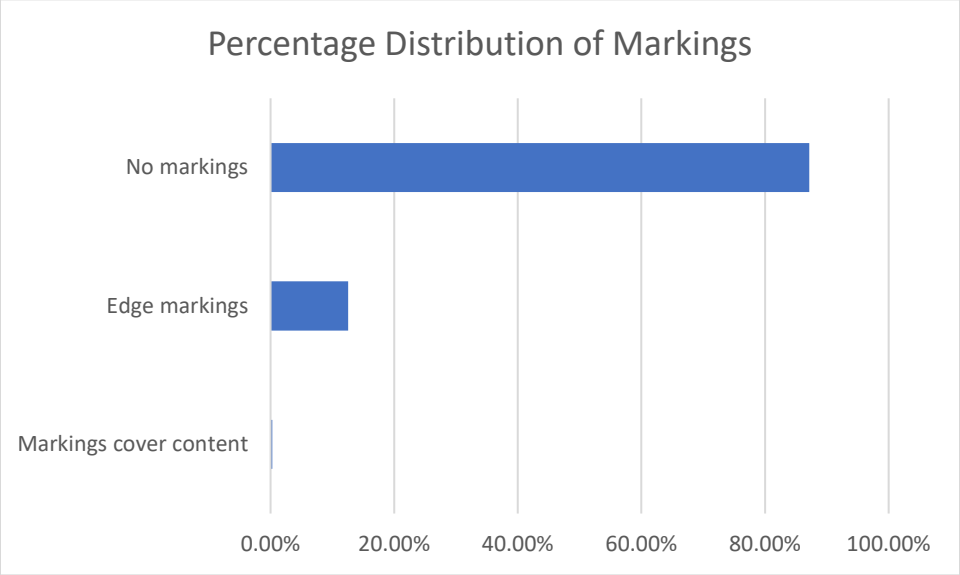

Figure 9. Markings Observed on Sampled Maps

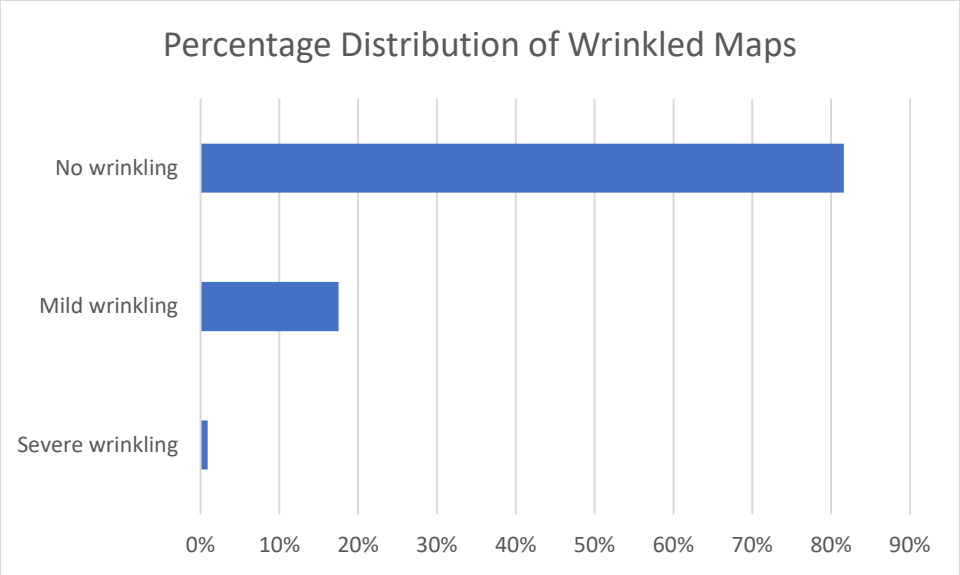

Figure 10. Presence of Wrinkles in Sampled Maps

Finally, the survey had an unexpected benefit. During the process of conducting the condition survey, the author noticed that maps were housed in less than optimal conditions. Maps were grouped together by topic and physically arranged without consideration for size or the weight of the filled folders. Although the maps had not yet warped from larger maps resting on top of smaller ones, the map folders were often bulky, heavy, and difficult to remove from their cases.

As the map collection had been inventoried but not yet cataloged, the author determined that the most practical solution would be to rearrange the maps by size, with the smallest maps on top, and to shift the maps into additional folders to limit each folder to approximately 25 maps. Maps were rehoused, and the inventory was updated during a subsequent phase of the author's fieldwork. These actions greatly improved the preservation condition of the maps while making it easier for LHGD staff to retrieve them for researcher use.

KEY TAKEAWAYS

Preserving historic map collections of any size can seem daunting, but a collection-condition assessment survey can give librarians tremendous insight into the specific needs and challenges of their collections. First, remember that other libraries have faced similar challenges and have already conducted surveys of their map collections. There is no need to start from scratch, as these surveys have successfully identified problem areas and led to the implementation of solutions. Borrowing existing survey methodologies can greatly streamline the process of planning a collection survey.

Second, collection-level surveys are less time intensive than they may initially appear. Once the methodology was finalized, the survey of RPL's nearly 3,000 maps was completed in three weeks, with approximately 45 hours spent handling and examining the maps.

Third, collection surveys make ideal projects for graduate students, skilled interns, and trained volunteers. Although some degree of specialized training is required to analyze the survey results and make recommendations for the broader assessment, the use of a standards document allows surveyors to quickly reference a consistent set of characteristics to measure on the survey form. The amount of time spent on the collection assessment can even be reduced by increasing the number of volunteers, interns, or staff performing the survey.

Finally, a condition survey allows librarians to go beyond basic intellectual control to develop an in-depth understanding of their collections. The insights gained from surveying the map collection led to the development of a preservation plan that greatly improved the storage, handling, and environmental monitoring of LHGD's historical map collection. Additionally, the survey identified damaged items that were later incorporated into a conservation-priority list.

CONCLUSION

As smartphones and online maps have become ubiquitous, paper-based maps have become less of a navigational necessity. Yet historic maps continue to serve a research purpose by recording places, plans, population densities, and other geographic details that describe what an area looked like to past generations. Digitizing historic maps provides expanded access to these resources and allows researchers to zoom in, enhance, and study these materials in greater detail. However, digitization is not the same as preservation, and many institutions have legal or departmental responsibilities to maintain physical map collections in perpetuity.

Conducting a collection-level assessment and condition survey provides deep insight into the preservation issues and challenges unique to a given collection. Once these issues are identified, libraries can implement strategies to address them, improve preservation conditions, and ensure the long-term care of these valuable resources. Moreover, preservation actions taken to improve the condition of one collection may also benefit others, as the problems affecting a single collection often apply to additional collections within the department. Preservation, in turn, paves the way for future digitization projects and conservation priorities. This report has outlined strategies and free online resources that can serve as a roadmap for conducting a collection-condition assessment survey.

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AI Usage Statement

The author did not utilize generative artificial intelligence in the research, writing, or editing of this paper.

About the author

Ron Martin-Dent is the Archives and Special Collections Librarian at Fort Hays State University. In 2024, he served as an intern at the Rochester Public Library's Local History and Genealogy Division while completing his M.L.I.S. degree at the University of Washington.